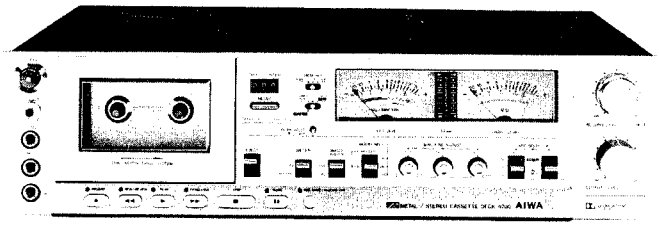
STEREO CASSETTE DECK WITH DOLBY NR SYSTEM

MODEL NO. AD-6700H,C,U,E,K,G

AIWA®

[SERVICE MANUAL]

Code No. 04-670-000-52



Shown above is AD-6700H

DATE OF ISSUE 7/1979

SPECIFICATIONS

Semiconductors:	19 IC's, 81 transistors, 60 diodes, 12 FET's & 6 LED's
Power source:	AC 110V/120V/220V/240V (H model) AC 110~120V/220V/240V (E model) AC 120V/240V (K,G model) (switchable) 50/60 Hz AC 120V, 60 Hz (U, C model)
Power consumption:	45W
Dimensions:	450(W) x 120(H) x 327(D) mm (H,C,E,K,G model) 18-9/16"(W) x 4-3/4"(H) x 12-7/8" (D) (472 x 120 x 327 mm) (U model)
Weight:	9.5 kg (H,C E,K,G model) 22.5 lbs (10.2 kg) (U model)
Tracks system:	4-track 2-channel stereo
Tape speed:	4.8 cm/sec. ± 0.5%
Wow & flutter:	Less than 0.04% (WRMS) at Pb
Automatic stop system:	Full auto-stop
Automatic shut-off action time:	2 ± 0.5 s.
Pinch roller pressure:	350 ± 30 g (3.43 ± 0.29 N)
Take-up torque:	50 ± 10 g-cm (490 ± 98 mN·m)
FF & rewind torque:	155 ± 25 g-cm (1519 ± 245 mN·m)
FF & rewind time:	65 ± 8 s. (w/C-60 cassette)
Unattended recording acting time:	3 ± 1 s.
Playback output: (TTA-161)	0.58 ± 0.06 V (LINE)
Playback noise: (Un-Weighted)	Less than 3.5 mV (LH, DOLBY OFF) Less than 1.0 mV (Fe-Cr, CrO_2, METAL, DOLBY ON)
Rec./Pb output: (400 Hz 0 VU)	0 VU ± 1.0 dB (LINE)
Rec./Pb distortion: (400 Hz 0 VU)	Less than 1.5% (LH, Fe-Cr) Less than 2.5% (CrO_2) Less than 1.3% (METAL)
Rec./Pb S/N: (400 Hz 0 VU) (Un-Weighted)	More than 40/45 dB (LH, DOLBY OFF/ON) More than 43/46 dB (Fe-Cr, CrO_2, METAL, DOLBY OFF/ON)
Channel separation: (1 kHz 0 VU)	More than 30 dB
Cross talk: (1 kHz 0 VU)	More than 60 dB
Erasing ratio: (400 Hz 0 VU + 10 dB)	More than 60 dB
VU meter display error: (0 VU)	0 VU ± 0.5 dB
Bias frequency:	105 kHz
Frequency response:	LH tape, 20~16,000 Hz 25~15,000 Hz ($^{+2}_{-3}$ dB) Fe-Cr tape, 20~19,000 Hz 25~17,000 Hz ($^{+2}_{-3}$ dB) CrO_2 tape, 20~18,000 Hz 25~16,000 Hz ($^{+2}_{-3}$ dB) METAL tape, 20~19,000 Hz 25~17,000 Hz ($^{+2}_{-3}$ dB)
Motor:	38 pulse FG servo motor (for capstan) DC servo motor
Head:	Sendust guard head (SGH) (for Rec./Pb) Double gap ferrite head (for Erasure)
Input:	MIC; Max. input sensitivity 0.25 mV (200 Ω~10 kΩ suitable) LINE IN; Max. input sensitivity 75 mV (More than 50 kΩ) DIN; Max. input sensitivity 0.25 mV (50 kΩ) (H,E,K,G model)
Output:	LINE OUT; Standard output level 0.41V (0 VU) Optimum load impedance More than 50 kΩ DIN; Standard output level 0.41 V (0 VU) Optimum load impedance More than 50 kΩ (H,E,K,G model) PHONES; 8 Ω~150Ω

Remote control unit specifications

Number of channels	7
Clock frequency	40 kHz ±1%
Power requirements	4.5V UM-3 (size 'AA') x 3
Current consumption	500 mA (when transmitting) 5 μA (during shutdown) under normal conditions)
Transmission directivity	About ±45°
Coverage range	About 8 meters
Semiconductors used	2 ICs, 5 transistors, 1 diodes, 2 LEDs
Usable temperature range	+0°C to +35°C
Dimensions	50 (W) x 25 (H) x 150 (D) mm 2"(W) x 1"(H) x 5-15/16"(D)
Weight	163g 0.36 lbs

- Specifications and external appearance are subject to change without notice due to product improvement.
- Dolby Noise Reduction System is licensed from Dolby Laboratories Incorporated.
- The name "Dolby" and the "Double D" symbol are trademarks of Dolby Laboratories Incorporated.

DISASSEMBLY INSTRUCTIONS

1. To Remove Cassette Lid, Blinder and Cassette Plate

1) Remove the cassette lid.
2) Remove the blinder.
3) Remove 2 screws, securing the cassette plate in place. (Refer to Fig. 1)

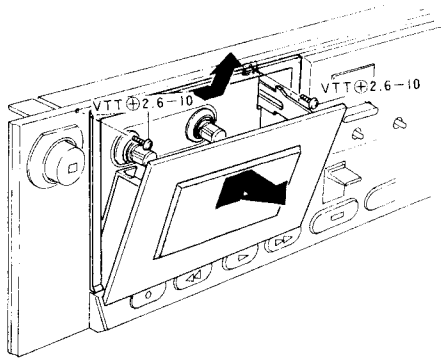


Fig. 1

2. To Remove Front Panel

1) Remove the connector.
2) Pull out the 13 knobs.
3) Remove 6 screws. (Refer to Fig. 2)

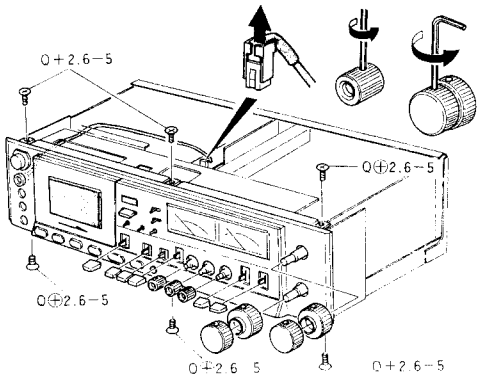


Fig. 2

3. To Remove Mechanism

1) Remove 2 screws, securing the player shync circuit board in place.
2) Remove 4 screws, securing the power transformer in place.
3) Remove 2 screws, securing the power switch holder in place.
4) Remove the counter belt and main belt.
5) Remove the rod stoppers and take out the selector rods. (Refer to Fig. 3)

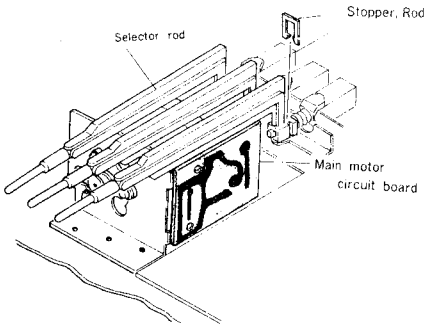


Fig. 3

6) Remove10screws. (Refer to Fig. 4 and Fig. 5)

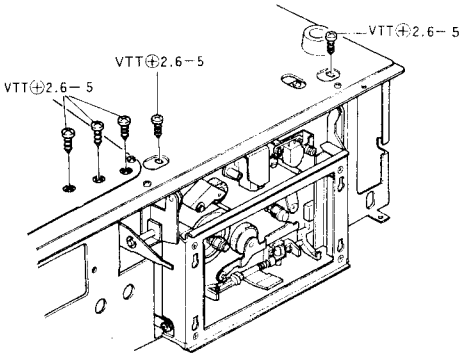


Fig. 4

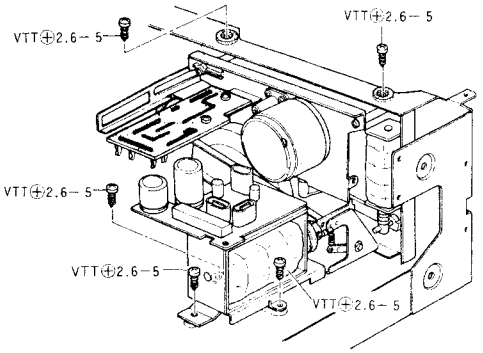
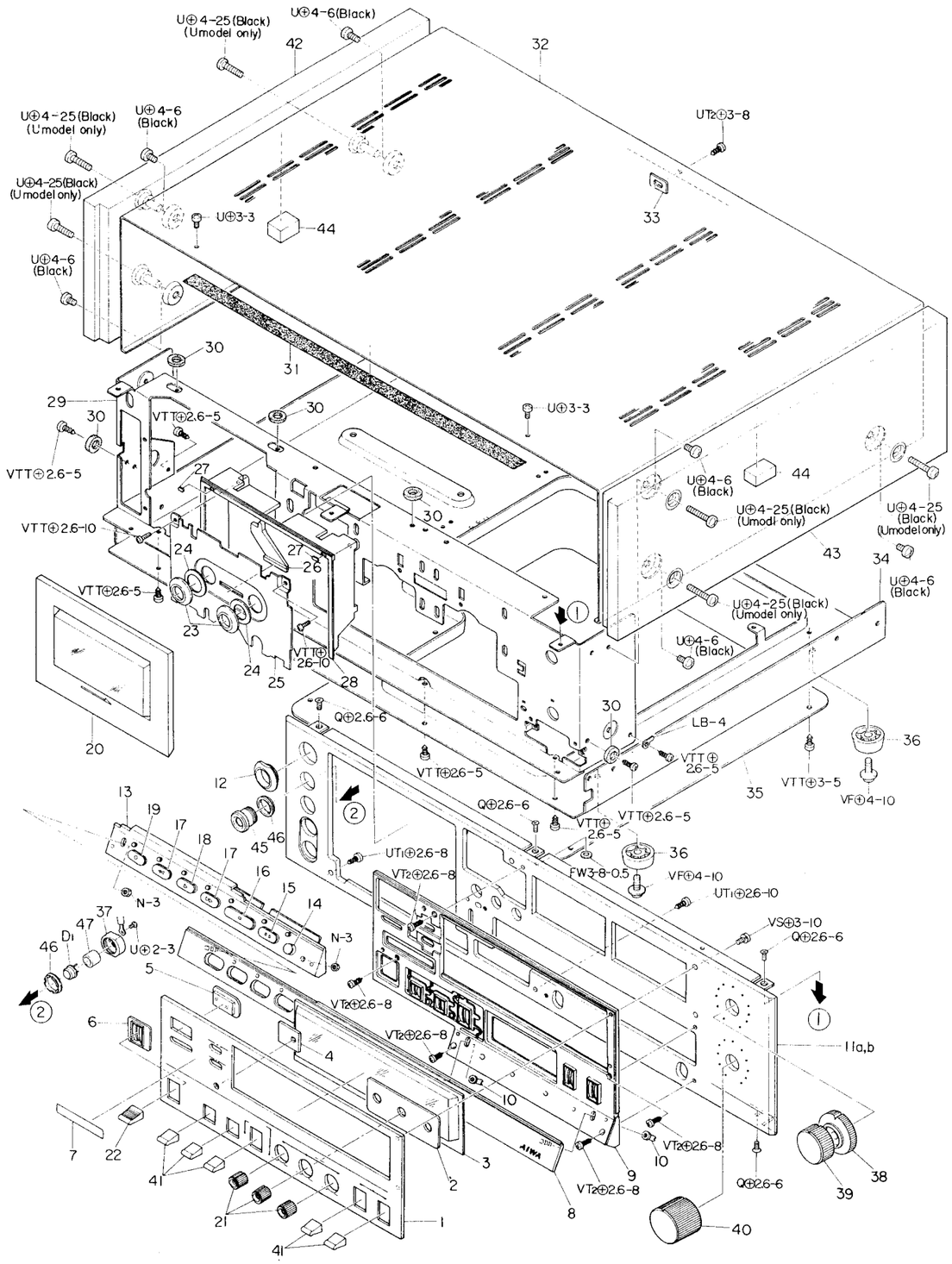


Fig. 5

EXPLODED VIEW–1



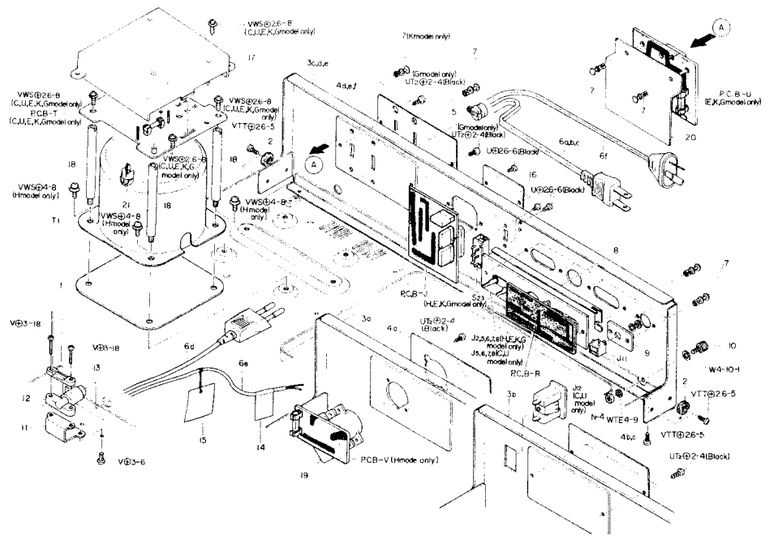
PARTS LIST

MECHANICAL PARTS

■ * mark in this part list shows exclusive part (which is used) for only Model AD-6700.

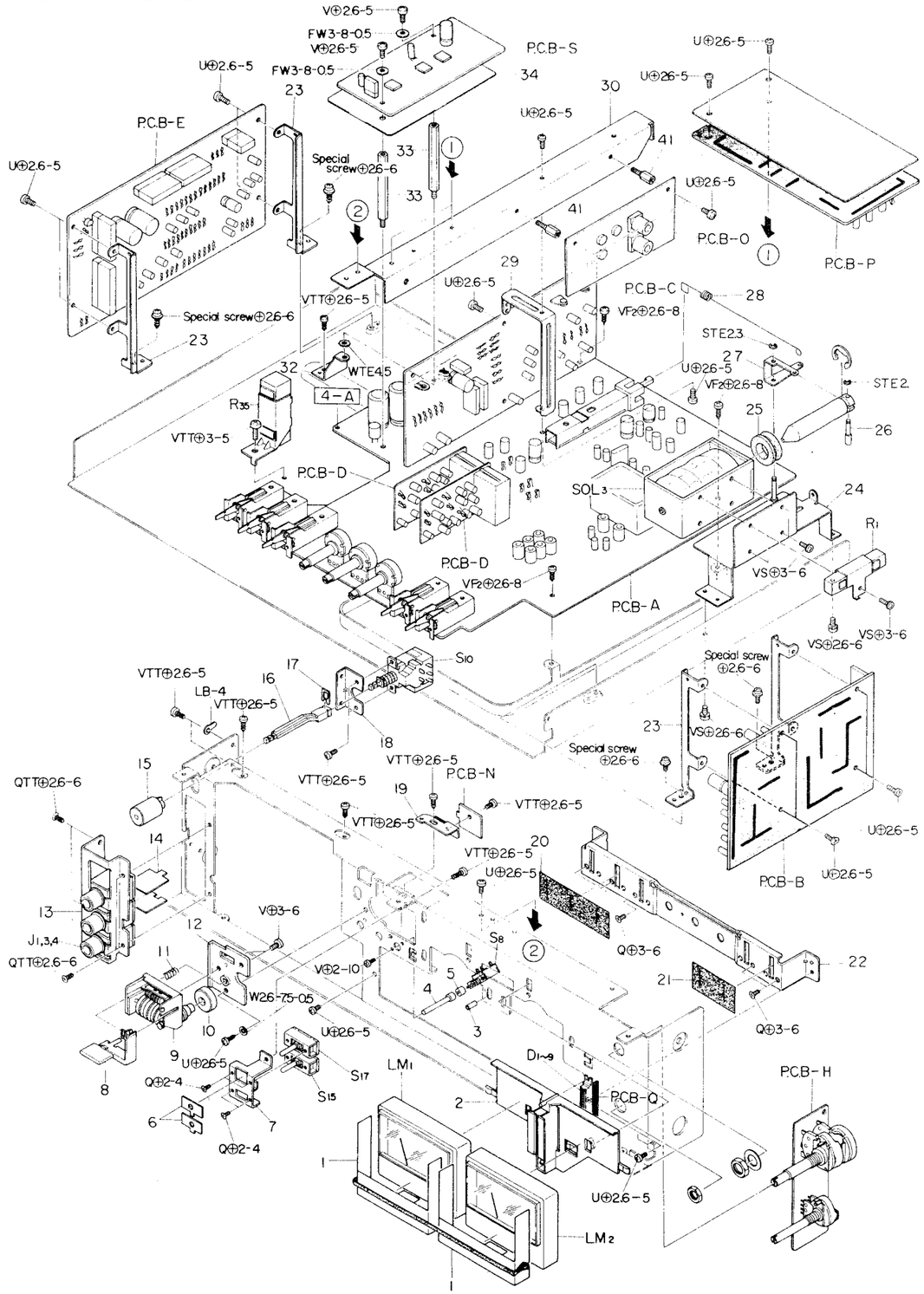
Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1-1	82-307-025-01		Front panel A	*	1
1-2	82-304-053-01		Cover, Bias	AD-6900	1
1-3	82-304-026-01		Window, Meter	AD-6900	1
1-4	82-307-227-01		Guide, Push button	*	1
1-5	82-304-061-01		Window, Counter	AD-6900	1
1-6	82-304-051-01		Cover, Eject	AD-6900	1
1-7	82-328-026-01		Caution label, Timer		1
1-8	82-307-022-01		Front panel Bass'y	*	1
1-9	82-304-008-01		Front panel M	AD-6900	1
1-10	82-304-245-01		Nut, 3-9	AD-6900	2
1-11a	82-307-030-01		Base, Front panel (H,E,K,G model only)	*	1
1-11b	82-307-019-01		Base, Front panel (C,U model only)	*	1
1-12	82-478-012-01		Ring, Power button	AA-8700	1
1-13	82-304-653-01		Switch board ass'y	AD-6900	1
1-14	82-304-087-01		Push-key, REC MUTE	AD-6900	1
1-15	82-304-085-01		Push-key, PAUSE	AD-6900	1
1-16	82-304-086-01		Push-key, STOP	AD-6900	1
1-17	82-304-084-01		Push-key, FF	AD-6900	2
1-18	82-304-083-01		Push-key, PLAY	AD-6900	1
1-19	82-304-082-01		Push-key, REC	AD-6900	1
1-20	09-047-154-01		Cassett lid ass'y	*	1
	82-307-009-01		Cassette lid ass'y	*	1
	82-304-043-01		Window, Cassette	AD-6900	1
1-21	82-307-011-01		Knob C ass'y	*	3
1-22	82-304-062-01		Knob, Eject key	AD-6900	1
1-23	82-397-039-01		Ring, Reel platform	AD-6550	2
1-24	82-397-290-01		Ring, Adhesive paper	AD-6550	2
1-25	82-304-065-01		Cassette plate	AD-6900	1
1-26	82-304-044-01		Guide, Light	AD-6900	1
1-27	82-304-066-01		S cushion, Lid	AD-6900	2
1-28	82-304-049-01		Blinder	AD-6900	1
1-29	82-307-213-01		Chassis, Front	*	1
1-30	82-304-302-01		G cushion spacer	AD-6900	5
1-31	82-397-245-01		Himeron cloth, Cabinet	AD-6550	1
1-32	82-307-007-01		Steel cabinet	*	1
1-33	82-380-439-01		Spacer, Back panel	AD-6500	1
1-34	82-307-228-01		Amp. chassis	*	1
1-35	82-304-203-01		Back cover	AD-6900	1
1-36	87-085-161-01		Foot		4
1-37	82-307-235-01		Nut	*	1
1-38	82-304-032-01		Knob A ass'y	AD-6900	1
1-39	82-304-034-01		Knob B ass'y	AD-6900	1
1-40	82-307-013-01		Knob D ass'y	*	1
1-41	82-304-030-01		Knob, Selector	AD-6900	1
1-42	87-052-014-01		Side panel L ass'y (U model only)		1
1-43	87-052-016-01		Side panel R ass'y (U model only)		1
1-44	82-533-229-01		Cushion (U model only)	TPR-920	1
1-45	82-307-024-01		Pipe A	*	1
1-46	82-307-026-01		Guide, Pipe	*	2
1-47	82-307-234-01		G cushion	*	1

EXPLODED VIEW–2



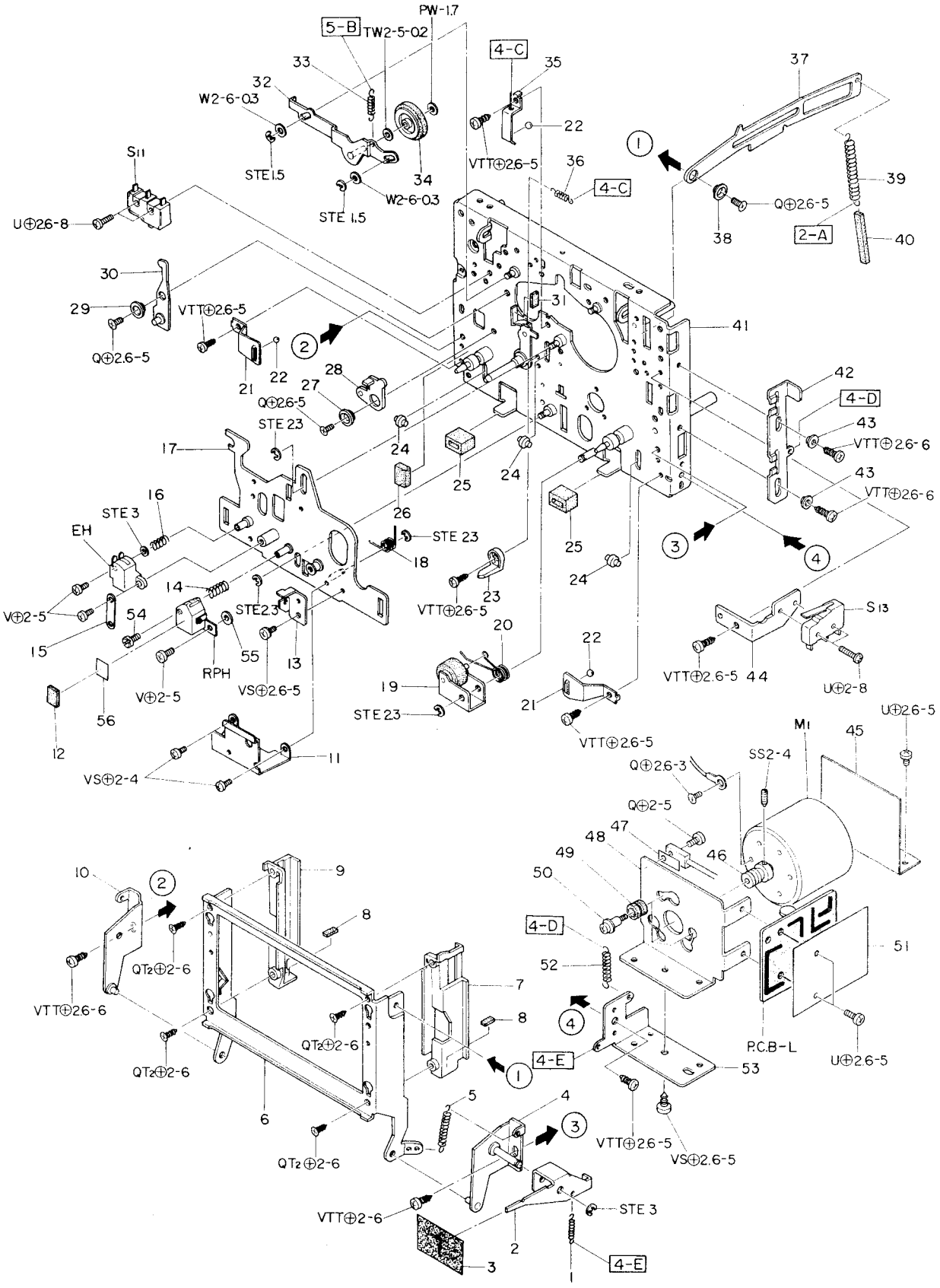
Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
2-1	82-304-735-01		Shield plate, Power transformer	AD-6900	1
2-2	82-304-302-01		G cushion spacer	AD-6900	2
2-3a	82-307-031-01		Back panel (H model only)	*	1
2-3b	82-307-029-01		Back panel (C,U model only)	*	1
2-3c	82-307-032-01		Back panel (E model only)	*	1
2-3d	82-307-033-01		Back panel (K model only)	*	1
2-3e	82-307-034-01		Back panel (G model only)	*	1
2-4a	82-307-035-01		Name plate, Spec. (H model only)	*	1
2-4b	82-307-036-01		Name plate, Spec. (C model only)	*	1
2-4c	82-307-021-01		Name plate, Spec. (U model only)	*	1
2-4d	82-307-037-01		Name plate, Spec. (E model only)	*	1
2-4e	82-307-038-01		Name plate, Spec. (K model only)	*	1
2-4f	82-307-039-01		Name plate, Spec. (G model only)	*	1
2-5	87-085-101-01		Cord bushing (H,C,U,G model only)		1
2-6a	87-034-826-01		AC power cord (H model only)		1
2-6b	87-034-876-01		AC power cord (C model only)		1
2-6c	87-034-874-01		AC power cord (U model only)		1
2-6d	87-034-877-01		AC power cord (E model only)		1
2-6e	87-034-872-01		AC power cord (K model only)		1
2-6f	87-034-878-01		AC power cord (G model only)		1
2-7	87-085-102-01		Nylon rivet		H,C,U:6 E:12 K,G:10
2-8	82-386-629-01		Shield plate, Jack	AD-1250	1
2-9	82-387-273-01		Holder, Jack	AD-6800	1
2-10	87-033-088-01		Earth terminal		1
2-11	82-397-244-01		Holder, AC power cord (E,K model only)	AD-6550	1
2-12	87-085-095-01		Holder B,AC power cord (E,K model only)		1
2-13	87-085-094-01		Holder A, AC power cord (E,K model only)		1
2-14	87-056-008-01		Label, AC power cord (K model only)		1
2-15	87-056-014-01		Tag, Main voltage (K model only)		1
2-16	82-307-028-01		Sheet, Blind	*	1
2-17	82-304-326-01		Shield case, Fuse (C,U,E,K,G model only)	AD-6900	1
2-18	82-304-325-01		Holder, Circuit board I (C,U,E,K,G model only)	AD-6900	4
2-19	82-488-234-01		Holder, Main voltage (H model only)	AX-7400	1
2-20	82-304-749-01		Insulation plate, V selector (E,K,G model only)	AD-6900	1
2-21	87-064-086-01		Holder, Circuit board		1

EXPLODED VIEW–3



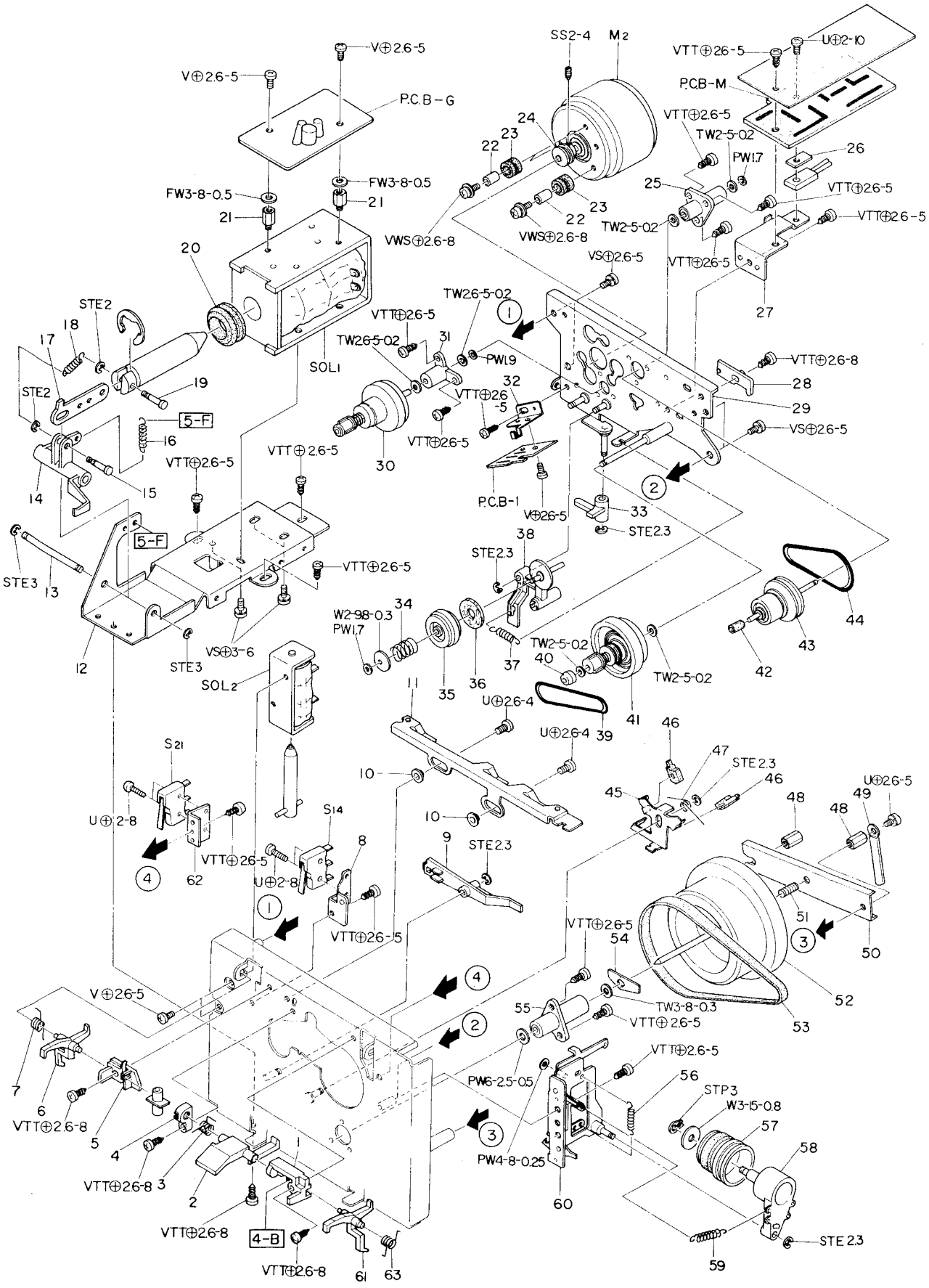
Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
3-1	82-307-233-01		Meter cover sheet	*	2	
3-2	82-307-027-01		Frame, LED	*	1	
3-3	87-085-117-01		Bushing		2	
3-4	82-307-016-01		Push-button	*	1	
3-5	82-307-017-01		Collar, Push-button	*	1	
3-6	82-304-048-01		Selector cover	AD-6900	2	
3-7	82-304-205-01		Switch holder B	AD-6900	1	
3-8	82-304-027-01		Reset button	AD-6900	1	
3-9	87-040-100-01		Counter		1	
3-10	82-379-617-01		Ring magnet	AD-6550	1	
3-11	82-304-303-01		Spring, Reset	AD-6900	1	
3-12	82-304-206-01		Holder, Counter	AD-6900	1	
3-13	82-307-644-01		Jack plate ass'y	*	1	
3-14	82-304-647-01		Jack shield plate ass'y	AD-6900	1	
3-15	82-399-025-01		AC switch button ass'y	AD-6400	1	
3-16	82-304-210-01		Rod, Power	AD-6900	1	
3-17	82-385-383-01		Rod, Stopper	AD-6300	1	
3-18	82-304-258-01		Holder, Power	AD-6900	1	
3-19	82-397-269-01		Holder, Hall IC	AD-6550	1	
3-20	82-304-273-01		Himeron cloth, Selector A	AD-6900	1	
3-21	82-304-274-01		Himeron cloth, Selector B	AD-6900	1	
3-22	82-304-204-11		Switch holder A	AD-6900	1	
3-23	82-304-207-01		Holder A, Circuit board	AD-6900	4	
3-24	82-307-214-01		Holder, REC solenoid ass'y	*	1	
3-25	82-304-283-01		G cushion, Solenoid	AD-6900	1	
3-26	82-307-204-01		Shaft, REC solenoid	*	1	
3-27	82-307-203-01		REC lever	*	1	
3-28	82-307-206-01		E spring, REC lever	*	1	
3-29	82-304-262-01		Holder D, Circuit board	AD-6900	1	
3-30	82-307-232-01		Holder C, Circuit board	*	1	
3-31	82-307-229-01		Holder A, Circuit board	*	2	
3-32	82-304-306-01		Holder F, Circuit board	AD-6900	1	
3-33	82-307-236-01		Holder B, Circuit board	*	2	
3-34	82-307-654-01		Shield sheet, Remote control	*	1	

EXPLODED VIEW–4



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
4-1	82-304-426-01		E spring, Eject lever	AD-6900	1	
4-2	82-304-236-01		Lever, Eject key	AD-6900	1	
4-3	82-304-275-01		Himeron cloth, Eject key	AD-6900	1	
4-4	82-304-205-01		Holder, Cassette box R ass'y	AD-6900	1	
4-5	82-304-252-01		E spring, Lid	AD-6900	1	
4-6	82-304-212-01		Cassette box ass'y	AD-6900	1	
4-7	82-304-046-01		Holder R, Cassette	AD-6900	1	
4-8	82-304-284-01		G cushion, Cassette	AD-6900	1	
4-9	82-304-047-01		Holder L, Cassette	AD-6900	1	
4-10	82-304-219-01		Holder, Cassette box L ass'y	AD-6900	1	
4-11	82-307-226-01		Shield plate	*	1	
4-12	82-304-327-01		M cushion, shield plate	AD-6900	1	
4-13	82-303-294-01		T spring, Holder		1	
4-14	82-392-347-01		C spring, Head	AD-6550	1	
4-15	82-365-280-01		Holder, Wire		1	
4-16	82-307-212-01		C spring, EH	*	1	
4-17	82-307-217-01		Actuating chassis ass'y	*	1	
4-18	82-303-315-01		T spring, Actuating chassis		1	
4-19	82-303-260-01		Pinch roller ass'y		1	
4-20	82-307-222-01		T spring, Pinch lever	*	1	
4-21	82-303-299-01		P spring, Actuating B		2	
4-22	82-215-341-01		Steel ball		3	
4-23	82-303-290-01		Guide, Cassette		1	
4-24	82-303-302-01		Actuating roller		3	
4-25	82-303-312-01		G cushion, Actuating		2	
4-26	82-303-367-01		G cushion, Actuating lock		1	
4-27	82-303-295-01		Frange collar, Actuating lock		1	
4-28	82-303-288-01		Lever, Actuating lock		1	
4-29	82-303-303-01		Frange collar, Idle lever		1	
4-30	82-303-337-01		Lever, Play idler B ass'y		1	
4-31	82-303-382-01		Felt, Sub brake		1	
4-32	82-303-342-01		Lever, Play idler ass'y		1	
4-33	82-303-325-01		E spring, Play idler		1	
4-34	82-303-274-01		Play idler ass'y		1	
4-35	82-303-298-01		P spring, Actuating A		1	
4-36	82-303-326-01		E spring, Back tension		1	
4-37	82-304-239-01		Lock plate, Lid	AD-6900	1	
4-38	82-304-287-01		Frange collar, Lid	AD-6900	1	
4-39	82-304-318-01		T spring, Lock plate	AD-6900	1	
4-40	82-304-323-01		S cushion	AD-6900	1	
4-41	82-307-216-01		Mechanism chassis ass'y	*	1	
4-42	82-304-237-01		Slide plate, Eject	AD-6900	1	
4-43	82-304-241-01		Frange collar, Eject	AD-6900	2	
4-44	82-304-235-01		Holder, Lid switch	AD-6900	1	
4-45	82-304-736-01		Shield plate, Motor	AD-6900	1	
4-46	82-303-387-01		Motor pulley, Flywheel B		1	
4-47	82-304-701-01		Spacer, Insulation	AD-6900	1	
4-48	82-304-256-01		Holder A, Motor	AD-6900	1	
4-49	87-087-029-01		Rubber cushion		3	
4-50	87-081-483-01		Motor screw M2.6		3	
4-51	82-307-635-01		Shield sheet, Motor	*	1	
4-52	82-304-265-01		E spring, Eject	AD-6900	1	
4-53	82-304-257-01		Holder, Motor B	AD-6900	1	
4-54	82-439-373-01		Shaft, REC/Pb head adjuster	TPR-300	1	
4-55	82-392-354-01		G cushion, Head	AD-6550	1	
4-56	87-057-576-01		Label, Head		1	

EXPLODED VIEW–5



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
5-1	82-303-285-01		Guide, Cassette R		1
5-2	82-303-347-01		Lever, Cassette holder		1
5-3	82-303-355-01		T spring, Cassette holder		1
5-4	82-303-348-01		Holder, Cassette case		1
5-5	82-303-289-01		Guide, Cassette L		1
5-6	82-303-346-01		REC blocking lever		1
5-7	82-303-354-01		T spring, REC blocking		1
5-8	82-303-350-01		REC blocking holder		1
5-9	82-303-286-01		Lever, Brake		1
5-10	82-304-286-01		Collar B, Frange	AD-6900	2
5-11	82-304-238-01		Slide lever, Cassette holder	AD-6900	1
5-12	82-304-233-01		Holder, Plunger	AD-6900	1
5-13	82-304-244-01		Shaft, Play lever	AD-6900	1
5-14	82-304-232-01		Play lever	AD-6900	1
5-15	82-304-243-01		Shaft B, Plunger	AD-6900	1
5-16	82-304-248-01		E spring, Plunger	AD-6900	1
5-17	82-304-234-01		Slide plate, PLAY	AD-6900	1
5-18	82-304-249-01		E spring, Actuating	AD-6900	1
5-19	82-304-242-01		Shaft A, Plunger	AD-6900	1
5-20	82-304-283-01		G cushion, Plunger	AD-6900	1
5-21	82-304-307-01		Brass post, Circuit board	AD-6900	2
5-22	87-085-135-01		Bushing		3
5-23	87-087-029-01		Rubber cushion		3
5-24	82-303-300-01		Motor pulley, FR		1
5-25	82-303-340-01		Shaft bearing ass'y		1
5-26	82-304-701-01		Spacer, Insulation	AD-6900	1
5-27	82-304-259-01		Holder, Motor circuit board	AD-6900	1
5-28	82-304-260-01		Guide, Lock plate	AD-6900	1
5-29	82-303-233-01		Mechanism chassis sub ass'y		1
5-30	82-307-207-01		Supply reel platform	*	1
5-31	82-303-396-01		Shaft bearing B ass'y		1
5-32	82-307-208-01		Holder, SDME	*	1
5-33	82-303-292-01		FR eject lever		1
5-34	82-303-322-01		C spring, FR idler		1
5-35	82-303-271-01		Idler pulley FR ass'y		1
5-36	82-303-335-01		Felt		1
5-37	82-303-353-01		E spring, FR lever		1
5-38	82-303-277-01		FR lever ass'y		1
5-39	82-304-247-01		Rubber belt, Counter	AD-6900	1
5-40	82-392-352-01		Cap, Take-up reel platform	AD-6550	1
5-41	82-303-249-01		Take-up reel platform ass'y		1
5-42	82-303-309-01		Driver rubber		1
5-43	82-303-330-01		Slip pulley ass'y		1
5-44	82-303-385-01		Rubber belt, FRB		1
5-45	82-303-297-01		Brake slide plate		1
5-46	82-439-426-01		Brake shoe A	TPR-300	2
5-47	82-303-318-01		T spring, Brake		1
5-48	82-303-314-01		Nut		2
5-49	87-038-039-01		Wire binder		1
5-50	82-303-291-01		Flywheel plate		1
5-51	82-385-311-01		Thrust screw	AD-6300	1
5-52	82-303-246-01		Flywheel ass'y		1
5-53	82-303-310-01		Rubber belt, Flywheel		1
5-54	82-303-224-01		P spring, Flywheel		1
5-55	82-392-256-01		Shaft bearing ass'y	AD-6550	1
5-56	82-304-251-01		E spring, Lock lever	AD-6900	1
5-57	82-397-265-01		Drum oil ass'y	AD-6550	1
5-58	82-397-271-01		Idler oil ass'y	AD-6550	1
5-59	82-397-302-01		Spring oil	AD-6550	1
5-60	82-304-221-01		Lock lever ass'y	AD-6900	1
5-61	82-303-349-01		Lever CrO_2		1
5-62	82-303-351-01		Holder, CrO_2		1
5-63	82-303-356-01		T spring, CrO_2		1

ELECTRICAL MAIN PARTS LIST

Symbol No.	Part No.	Description
		≪REC/PB CIRCUIT BOARD SECTION≫
PCB-A	82-307-604-51	REC/PB circuit board
IC1,2	82-304-682-01	IC, TA7220P
Q1,2	89-107-505-01	Transistor, 2SA750 (E)
Q3,4	89-314-005-01	Transistor, 2SC1400 (E)
Q5,6,9,10, 13,14	89-312-222-01	Transistor, 2SC1222 (E)
Q7,8,11,12 19,20,25,26	89-402-275-01	Transistor, 2SD227 (V)
Q15,16,17,18 23,31,32,33 34,35,36,37 38,39,40	89-309-455-61	Transistor, 2SC945L (P,Q)
Q21	89-404-143-01	Transistor, 2SD414 (Q)
Q22	89-311-734-01	Transistor, 2SC1173 (Y)
Q24	89-107-335-61	Transistor, 2SA733 (K,P)
Q27	89-318-154-51	Transistor, 2SC1815 (Y)
Q28	89-316-347-01	Transistor, 2SC1634 (7)
Q29	89-405-712-01	Transistor, 2SD571 (L)
D5,12,15,16 17	87-027-097-01	Diode, 1S1555
D4	87-027-140-01	Zener diode, 05Z-6.2
D6	82-372-631-01	Zener diode, XZ-315
D7,8,11,13	87-027-163-01	Encapsulated diode, 1B4B1
D9,10	87-027-199-01	Zener diode, 05Z-15U
D14	87-027-436-01	Zener diode, HZ11B1
L1,2	82-306-642-01	Coil, 6.8 mH
L3,4,5,6	82-306-641-01	Coil, 4.7 mH
L7,8	82-304-701-01	Coil, 22 mH
OSC UNIT	82-307-652-01	OSC unit
TC1,2	85-708-604-21	Trimmer, 30pF
VR5,6,7	82-307-602-01	Volume, 50kΩ-K (BIAS ADJUST)
S1	82-307-606-01	Slide switch (REC/PB)
S2,6	82-304-627-01	Lever switch (INPUT SELECTOR, METER)
S3,4,5	82-304-628-01	Lever switch (DOLBY-NR, BIAS, EQ)
SFR1,2,3,4,5	87-021-363-01	Semi-fixed resistor, 47kΩ-B
SFR11,12,13 14	87-021-366-01	Semi-fixed resistor, 10kΩ-B
SFR6,7,9,10	87-021-422-01	Semi-fixed resistor, 22kΩ-B
		< Resistors >
R29,30	82-379-675-01	7.32kΩ 1/4W ±2%
⚠ R183,184	87-029-017-01	10Ω 1/4W Fuse resistor
⚠ R181	87-029-016-01	22Ω 1/2W Fuse resistor
		< Capacitors >
C9,10	87-015-242-01	2.2μF 50V Electrolytic LL
C27,28	87-015-246-01	4.7μF 25V Electrolytic LL
C13,14	87-014-053-01	680pF PP
C73,74	87-968-410-01	100pF 500V Dipped mica
		≪MIC/REC LOGIC CIRCUIT BOARD SECTION≫
PCB-B	82-307-647-11	MIC/REC logic circuit board
IC1,2	87-027-182-01	IC, μPC1023H
Q4,8,11	89-309-455-61	Transistor, 2SC945L (P,Q)
Q9,10	89-404-143-01	Transistor, 2SD414 (Q)
D2	87-027-140-01	Zener diode, 05Z-6.2
D3	87-027-365-01	Diode, S5277B
PIN-1	87-032-897-01	Pin, 3P
PIN-2	87-032-906-01	Pin, 6P

Symbol No.	Part No.	Description
		< Resistors >
R25	82-304-683-01	56Ω 10W Cement resistor
⚠ R26	87-029-015-01	10Ω 1/4W Fuse resistor (E,K,G model only)
		< Capacitor >
C51,52	87-015-243-01	3.3μF 25V Electrolytic LL
		≪VTP CIRCUIT BOARD SECTION≫
PCB-C	82-307-646-11	VTP circuit board
IC1	87-027-235-01	IC, NJM-4558D
IC3.4	87-027-261-01	IC, LB-1405
Q1	89-309-455-61	Transistor, 2SC945L (P,Q)
Q2,4,5,6 7,8	89-107-335-01	Transistor, 2SA733 (K)
Q3,11,12 13,14	89-309-455-01	Transistor, 2SC945L (Q)
D1	87-027-365-01	Diode, S5277B
D3,4,11,12	87-027-097-01	Diode, 1S1555
D5	87-026-066-01	Diode, M8513A (O)
D6	87-027-416-01	Zener diode, HZ3C2
D7	87-027-220-01	Zener diode, WZ-182
D8,9,10,13 14	88-052-188-11	Diode, 1S188 (FM)
D17	87-027-140-01	Zener diode, 05Z-6.2
SFR1,2	87-021-478-01	Semi-fixed resistor, 10kΩ-B
SFR3,4	87-021-477-01	Semi-fixed resistor, 4.7kΩ-B
SFR5	87-021-480-01	Semi-fixed resistor, 47kΩ-B
SFR6	87-021-476-01	Semi-fixed resistor, 1kΩ-B
PIN	87-032-633-11	Pin, 3P
PIN	87-032-639-01	Pin, 9P
PIN-17	87-032-903-01	Pin, 3P
PIN-14	87-032-904-01	Pin, 4P
PIN-16	87-032-906-01	Pin, 6P
PIN-15	87-032-910-01	Pin, 10P
		< Capacitors >
C2	87-015-328-01	0.22μF 50V Electrolytic LL
C4	87-019-080-01	1μF 35V Tantalum
		≪DOLBY-NR CIRCUIT BOARD SECTION≫
PCB-D	87-033-157-11	Dolby-NR circuit board
IC1	87-027-381-01	IC, LM101 (N)
LPF1	87-030-060-01	Low pass filter
PIN	87-032-640-01	Pin, 10P
		< Resistor >
R2	87-025-209-01	3.3kΩ 1/4W ±1%
		< Capacitors >
C1	87-015-241-01	1μF 50V Electrolytic LL
C6	82-371-643-01	4700pF ±2% PP
C2	82-371-642-01	5600pF ±2% PP
C7	82-371-641-01	0.027μF ±2% PP
		≪MICROPROCESSOR CIRCUIT BOARD SECTION≫
PCB-E	82-319-602-21	Microprocessor circuit board
IC1	87-027-425-01	IC, μPD-546C-66
IC2,3,4	87-027-426-01	IC, IR-2403
Q1,2,3,4, 5,6,10,12	89-309-455-01	Transistor, 2SC945L (Q)
Q7,9,11	89-404-143-01	Transistor, 2SD414 (Q)
Q8	89-402-344-01	Transistor, 2SD234 (Y)
Q13	89-309-457-01	Transistor, 2SC945L (K)
D1	88-052-188-11	Diode, 1S188 (FM)
D2,3,4,6, 7,8,9,11, 12,16,18	87-027-097-01	Diode, 1S1555

Symbol No.	Part No.	Description
D5	87-027-416-01	Zener diode HZ3C2
D10	87-026-069-01	Zener diode, WZ-052
D13,14	87-027-365-01	Diode, S5277B
D15	87-027-140-01	Zener diode, 05Z-6.2U
D17	87-027-171-01	Zener diode, RD2.7E
RY1,S18	82-304-651-01	Relay, L
RY2,S19	84-196-630-01	Relay, BR211AD
X1	87-008-186-01	Ceramic, CSB400RI
PIN-7	87-032-904-01	Pin, 4P
PIN-6,22	87-032-905-01	Pin, 5P
PIN-5	87-032-906-01	Pin, 6P
PIN-9	87-032-908-01	Pin, 8P
PIN-8	87-032-909-01	Pin, 9P
PIN-4	87-032-910-01	Pin, 10P
PIN-10	87-032-912-01	Pin, 12P
		< **Resistor** >
R51	87-029-015-01	10Ω 1/4W Fuse resistor (E,K,G model only)
≪TERMINAL CIRCUIT BOARD SECTION≫		
PCB-G	82-304-753-01	Terminal circuit board
Q1	82-309-455-01	Transistor, 2SC945L (Q)
D1	87-027-365-01	Diode, S5277 (B)
D2	88-052-188-11	Diode, 1S188 (FM)
≪VOLUME CIRCUIT BOARD SECTION≫		
PCB-H	82-307-616-21	Volume circuit board
Q1,2	89-402-275-01	Transistor, 2SD227 (V)
D1	87-026-069-01	Zener diode, WZ-052
VR1,2	82-304-680-11	Volume, 20kΩ-A (RECORD LEVEL)
VR3,4	82-307-605-01	Volume, 10kΩ-A (OUTPUT LEVEL)
≪DME CIRCUIT BOARD-2 SECTION≫		
PCB-I	82-307-637-01	DME circuit board-2
DME	82-397-642-11	DM-101A
≪REMOTE CONTROL CIRCUIT BOARD SECTION≫		
PCB-J	82-307-653-11	Remote control circuit board
J9	82-307-669-01	Connector
≪SWITCH CIRCUIT BOARD SECTION≫		
PCB-K	82-304-740-11	Switch circuit board ass'y
D1,6	87-026-112-01	Light emitting diode, SEL-1033 (RED)
D2,3,4,5	87-026-113-01	Light emitting diode, SEL-303E (GRN)
≪DME CIRCUIT BOARD-1 SECTION≫		
PCB-N	82-307-655-01	DME circuit board-1
DME	82-397-642-11	DM-101A
≪METAL CIRCUIT BOARD SECTION≫		
PCB-O	82-304-752-01	Metal circuit board
L1,2	82-304-715-01	Coil, 3.9 mH
RY1	84-184-612-01	Relay,
SFR1,2	87-021-366-01	Semi-fixed resistor, 10kΩ-B
PIN-19	87-032-903-01	Pin, 3P
PIN-18,20	87-032-904-01	Pin, 4P
≪PEAK HOLD CIRCUIT BOARD SECTION≫		
PCB-P	82-307-649-11	Peak hold circuit board
IC1,2	87-027-298-01	IC, C-MOS, TC4001P-NOR
IC3	87-027-299-01	IC, C-MOS, TC4030P, EXC-OR
Q1,2,3,4	89-309-455-61	Transistor, 2SC945L (P,Q)
Q5,6,7,8	89-107-335-01	Transistor, 2SA733 (K)

Symbol No.	Part No.	Description
≪PEAK LED CIRCUIT BOARD SECTION≫		
PCB-Q	82-307-648-01	Peak LED circuit board
D1~9	87-027-260-01	Light emitting diode, MULTI (–15, –7, –3, 0, 2, 4, 5, 6, 7)
≪JACK CIRCUIT BOARD SECTION≫		
PCB-R	82-307-622-01	Jack circuit board
D2	87-027-097-01	Diode, 1S1555
RY1,S7	84-184-612-01	Reed Relay (LINE OUT MUTING)
≪RX CIRCUIT BOARD SECTION≫		
PCB-S	82-307-640-21	RX circuit board
IC1	87-027-355-01	IC, LF357
IC2	87-027-235-01	IC, 4558
IC3	87-027-300-01	IC,555 TIMER
Q1	89-309-455-61	Transistor, 2SC945L (P,Q)
D2	88-052-188-11	Diode, 1S188 (FM)
D3	87-027-097-01	Diode, 1S1555
PIN-21	87-032-903-01	Pin, 3P
≪FUSE CIRCUIT BOARD SECTION≫		
⚠ PCB-T	82-304-731-01	Fuse circuit board (C,U,E,K,G model only)
⚠ F1	87-035-117-01	Fuse, "T" 1,25A (C model only)
	87-098-165-01	Fuse caution label (C model only)
⚠ F1	87-035-298-01	Fuse, 1.25A (U model only)
	87-098-166-01	Fuse caution label (U model only)
⚠ F3,5,6	87-035-107-01	Fuse, "T" 315 mA (E,K,G model only)
	87-098-011-01	Fuse label, "T" 315 mA (E,K,G model only)
⚠ F4	87-035-063-01	Fuse, "T" 630 mA (E,K,G model only)
	87-098-014-01	Fuse label, "T" 630 mA (E,K,G model only)
⚠ F7,8	87-035-117-01	Fuse, "T" 1.25A (E,K,G model only)
	87-098-017-01	Fuse label, "T" 1.25A (E,K,G model only)
	87-033-147-01	Fuse clamp
		< **Capacitors** >
⚠ C1	87-019-096-01	0.01μF 250V Linecapacitor (E model only)
⚠ C1,2	87-019-096-01	0.01μF 250V Linecapacitor (K,G model only)
≪VOLTAGE SELECTOR CIRCUIT BOARD SECTION≫ = E,K,G model		
⚠ PCB-U	82-304-730-01	Voltage selector circuit board
⚠ S22	87-031-364-01	Slide switch (VOLTAGE SELECTOR) (K,G model only)
⚠ S22-1,2	87-031-364-01	Slide switch (VOLTAGE SELECTOR) (E model only)
⚠ F1	87-035-075-01	Fuse, "T" 500 mA
	87-098-013-01	Fuse label, "T" 500 mA
⚠ F2	87-035-107-01	Fuse, "T" 315 mA (K,G model only)
	87-098-011-01	Fuse, label, "T" 315 mA (K,G model only)
	87-032-744-01	Fuse clamp

Symbol No.	Part No.	Description
	≪VOLTAGE SELECTOR CIRCUIT BOARD SECTION≫ = H model only	
⚠ PCB-V	82-304-733-11	Voltage selector circuit board
⚠ S22	82-304-732-01	Rotary switch (VOLTAGE SELECTOR)
⚠ F1	87-035-075-01	Fuse, "T" 500 mA
	87-098-013-01	Fuse label "T" 500 mA
	87-032-744-01	Fuse clamp
	≪MISCELLANEOUS≫	
⚠ T1	82-307-663-01	Power transformer (H model only)
⚠ T1	82-307-643-01	Power transformer (C,U model only)
⚠ T1	82-307-662-01	Power transformer (E model only)
⚠ T1	82-307-665-01	Power transformer (K,G model only)
D1	87-027-366-01	PIN diode M133HLF AW
RPH	87-046-171-01	REC/PB head
EH	87-046-173-01	Erase head
M1,PCB-L	82-304-637-11	Main motor, DC-EG
M2,PCB-M	82-304-638-01	Sub motor, DC-EG
SOL1,3	82-304-639-01	Plunger (FWD,REC)
SOL2	82-304-640-11	Plunger (FR)
J1,3,4	82-307-644-01	Jack ass'y (PHONES, LINE IN, MIC)
J2,5,6,7,8	82-304-737-01	Pin jack, 4P W/DIN (DIN, LINE OUT, LINE IN) (H,E,K,G model only)
J5,6,7,8	82-307-623-01	Pin jack, 4P (LINE OUT, LINE IN) (C,U model only)
J11	87-032-882-01	Jack, 2.5φ (PLAYERS SYNC)
⚠ J12	87-032-674-01	Jack (AC OUTLET) (C,U model only)
PL3	82-304-718-01	Pilot lamp 8V (CASSETTE WINDOW)
LM1	82-307-608-01	Level meter A (VU/TAPE TIME)
LM2	82-307-609-01	Level meter B (VU)
⚠ CP1	87-019-081-01	Compound capacitor 0.033μF 120Ω (C model only)
⚠ CP1	87-028-036-01	Compound capacitor 0.033μF 120Ω (U model only)
S8	82-307-634-01	Push switch (PEAK HOLD)
⚠ S10	87-031-408-01	Push switch (POWER) (H,E,K,G model only)
⚠ S10	87-031-480-01	Push switch (POWER) (C,U model only)
S11	82-304-723-01	Micro switch (PLAY DETECTION)
S13,14,21	82-304-724-01	Micro switch (CASSETTE DETECTION, ERASE PREVENTION DETECTION, CrO_2 AUTO)
S15,17	82-304-630-01	Slide switch (TIMER, MEMORY)
S23	82-375-623-01	Slide switch (DIN OUTPUT LEVEL) (H,E,K,G model only)
⚠ F9	87-035-107-01	Fuse, "T" 315 mA (E,K,G model only)
	87-098-011-01	Fuse, label, "T" 315 mA (E,K,G model only)
⚠	87-033-161-01	Fuse holder, 1P (E,K,G model only)
⚠	87-034-826-01	AC power cord (H model only)
⚠	87-034-874-01	AC power cord (C,U model only)
⚠	87-034-877-01	AC power cord (E model only)
⚠	87-034-872-01	AC power cord (K model only)
⚠	87-034-878-01	AC power cord (G model only)
⚠	87-085-101-01	Cord bushing (H,C,U,G model only)
CON-1	82-304-703-01	Connector ass'y, 3P
CON-17	82-307-661-01	Connector ass'y, 3P
CON-19	82-307-658-01	Connector ass'y, 3P
CON-21	82-307-650-11	Connector ass'y, 3P
CON-7	82-328-617-01	Connector ass'y, 4P
CON-13	82-304-668-01	Connector ass'y, 4P
CON-14	82-307-626-01	Connector ass'y, 4P
CON-18	82-307-656-01	Connector ass'y, 4P
CON-20	82-307-657-01	Connector ass'y, 4P
CON-6	82-328-613-01	Connector ass'y, 5P
CON-12	82-304-669-01	Connector ass'y, 5P
CON-22	82-307-668-01	Connector ass'y, 5P
CON-3	82-307-660-01	Connector ass'y, 6P
CON-5	82-328-619-01	Connector ass'y, 6P
CON-11	82-304-670-01	Connector ass'y, 6P
CON-16	82-307-627-01	Connector ass'y, 6P
CON-9	82-328-620-01	Connector ass'y, 8P
CON-8	82-328-609-01	Connector ass'y, 9P
CON-4	82-328-618-01	Connector ass'y, 10P
CON15	82-307-610-01	Connector ass'y, 10P
CON-10	82-328-610-01	Connector ass'y, 12P
	< **Resistors** >	
R35	82-304-738-01	47Ω 10W ±5% Cement resistor
R1	82-307-625-01	56Ω 10W ±5% Cement resistor
	< **Capacitor** >	
⚠ C1	87-019-096-01	0.01μF 250V Line capacitor (H model only)

Safety component symbol

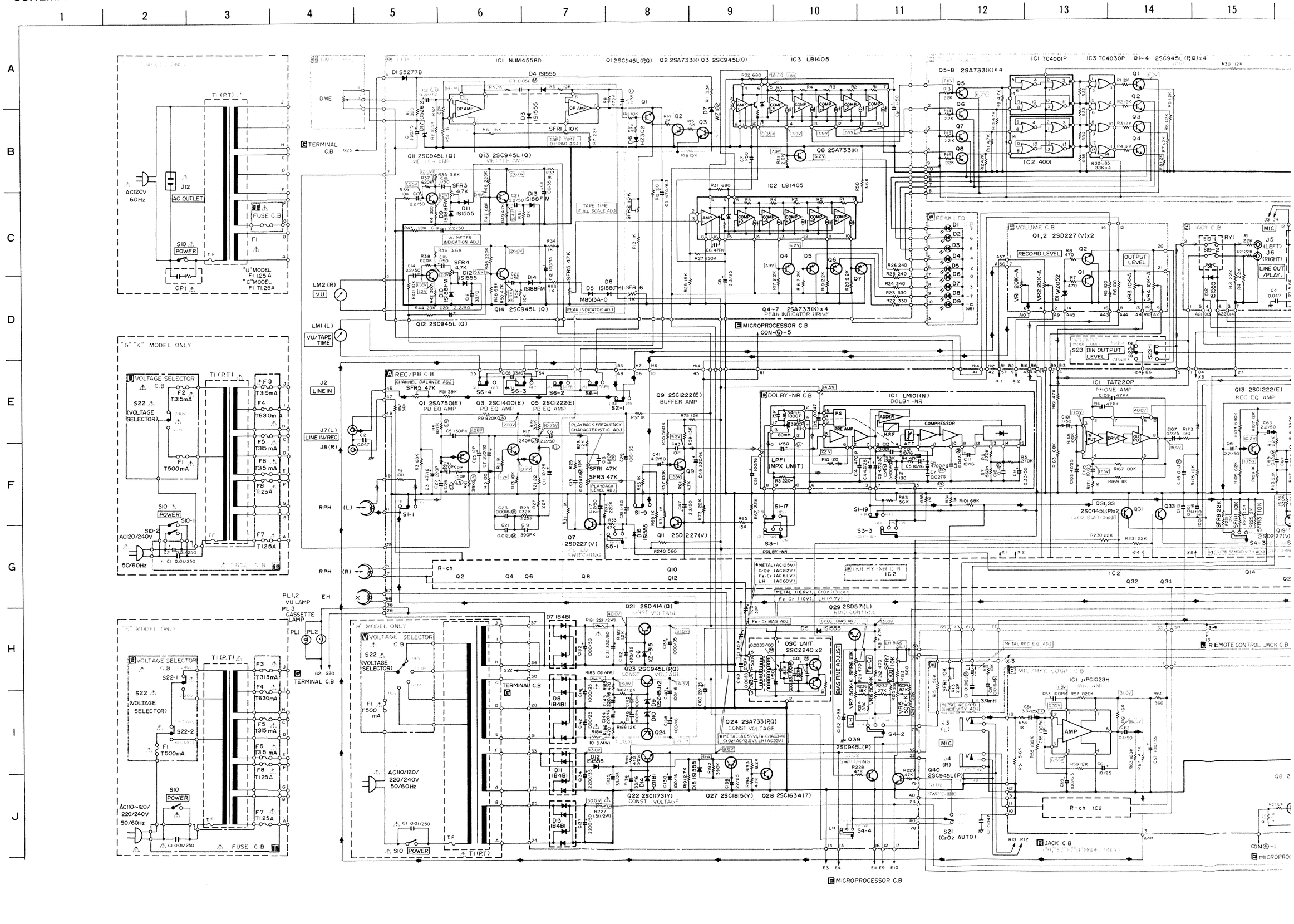
⚠ This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

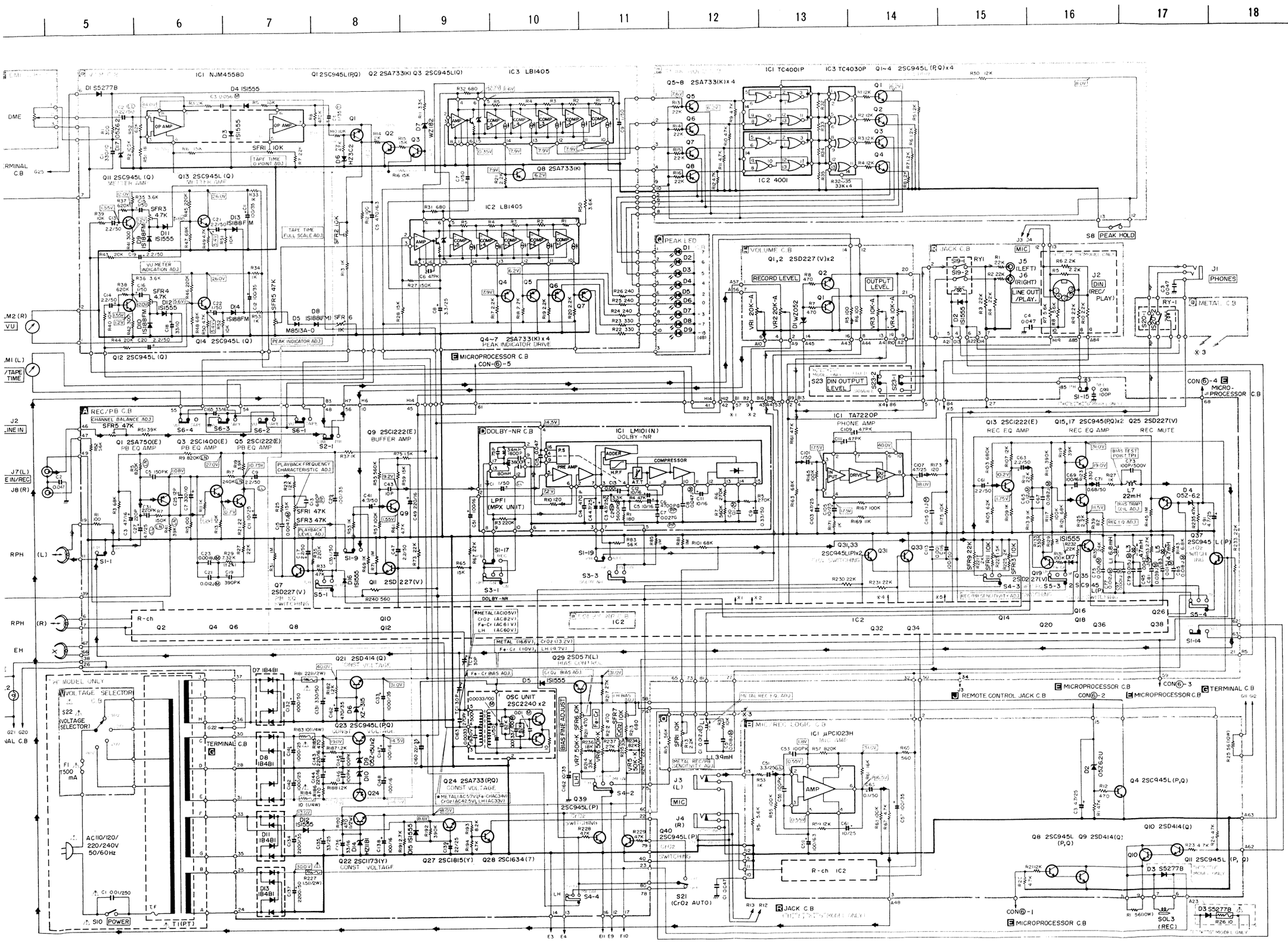
[RC-100 REMOTE CONTROL SECTION]

Symbol No.	Part No.	Description
≪REMOTE CONTROL CIRCUIT BOARD SECTION≫		
PCB-A	82-307-639-01	Remote control circuit board
≪TX CIRCUIT BOARD SECTION≫		
PCB-B	82-307-638-11	TX circuit board
IC1	87-027-421-01	IC, TC4028
IC2	87-027-424-01	IC, M58484
Q1~4	89-309-455-61	Transistor, 2SC945L (P,Q)
Q5	89-404-673-01	Transistor, 2SD467 (C)
D1	87-027-363-01	Light emitting diode, GL-520
D2	87-027-097-01	Diode, 1S1555
D3	87-027-356-01	Light emitting diode, GL-9PR-6
X1	87-008-191-01	Ceramic, SFB-455R

AIWA

SCHEMATIC DIAGRAM –1




5
6
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13
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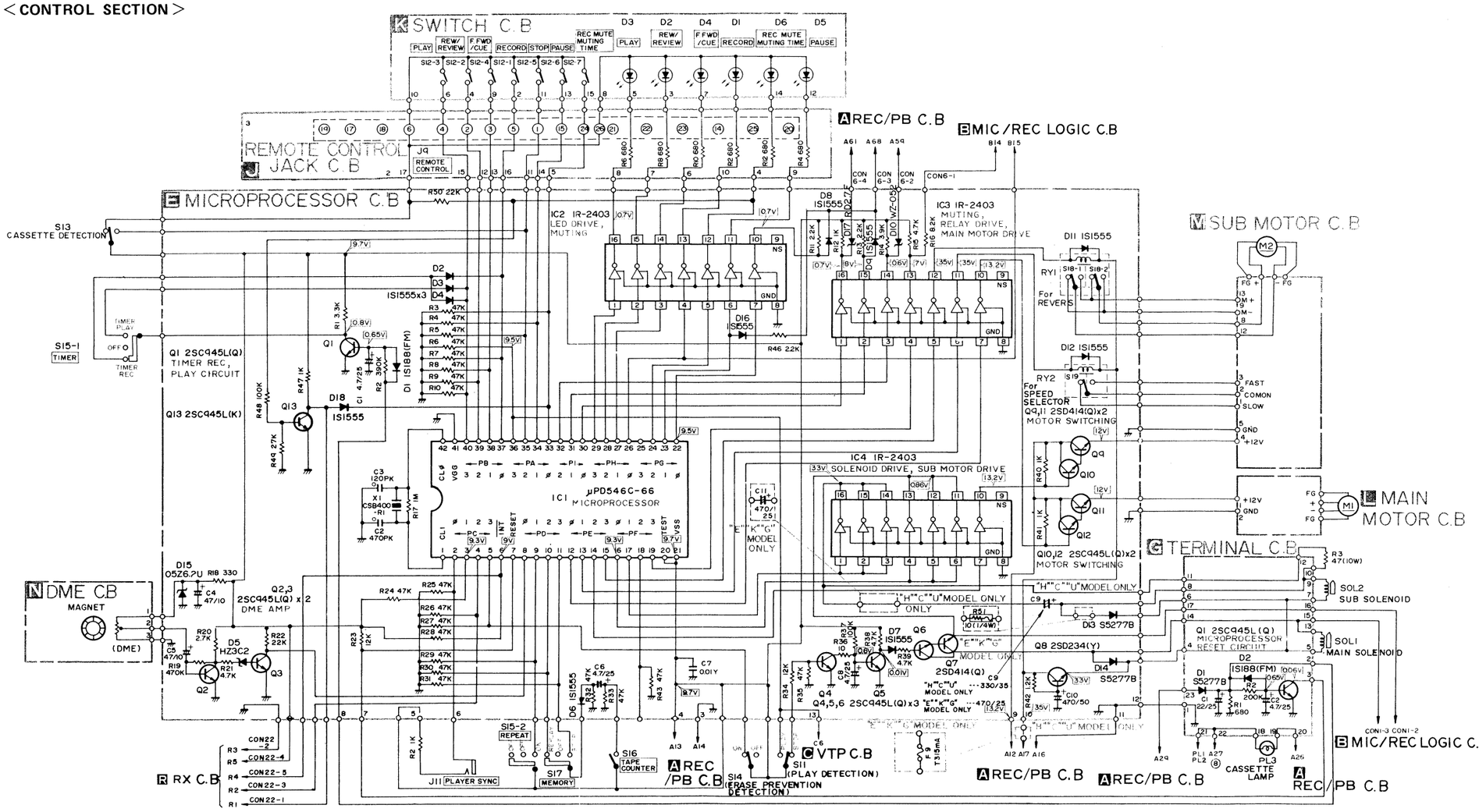
15
16
17
18
19
IC1 NJM4558D
Q1 2SC945L(RQ) Q2 2SA733(K) Q3 2SC945L(Q)
IC3 LB1405
IC1 TC4001P
IC3 TC4030P Q1~4 2SC945L(RQ)x4
Q5~8 2SA733(K)x4
IC2 4001
IC2 LB1405
Q8 2SA733(K)
Q4~7 2SA733(K)x4
PEAK INDICATOR DRIVE
PEAK LED
VOLUME C.B
Q1,2 2SD227(V)x2
RECORD LEVEL
OUTPUT LEVEL
JACK C.B
MIC
S8 PEAK HOLD
J1 PHONES
METAL C.B
MICROPROCESSOR C.B
CON-⑥-5
REC/PB C.B
CHANNEL BALANCE ADJ
Q1 2SA750(E)
PB EQ AMP
Q3 2SC1400(E)
Q5 2SC1222(E)
Q9 2SC1222(E)
BUFFER AMP
PLAYBACK FREQUENCY CHARACTERISTIC ADJ.
PLAYBACK LEVEL ADJ.
DOLBY-NR C.B
IC1 LM101(N)
DOLBY-NR
ADDER
PRE AMP
COMPRESSOR
H.P.F
A.T.T
LPF1
(MPX UNIT)
IC1 TA7220P
PHONE AMP
Q13 2SC1222(E)
REC EQ AMP
Q15,17 2SC945(RQ)x2
Q25 2SD227(V)
REC MUTE
BIAS TEST POINT TP1
BIAS TRIM SOL ADJ.
REC EQ ADJ.
Q37 2SC945L(P)
REC/PB SENSITIVITY ADJ.
Q11 2SD227(V)
Q7 2SD227(V)
PB EQ SWITCHING
Q31,33 2SC945L(P)x2
REC SWITCHING
Q35 2SC945L(P)
Q19 2SD227(V)
S4-3
S5-3
S5-4
S1-4
R-ch
Q2 Q4 Q6 Q8 Q10 Q12
Q14 Q16 Q18 Q20 Q26 Q36 Q38
IC2
Q32 Q34
*METAL (AC105V)
CrO2 (AC82V)
Fe-Cr (AC61V)
LH (AC60V)
METAL (116V), CrO2 (73.2V)
Fe-Cr (110V), LH (94.7V)
Q29 2SD571(L)
BIAS CONTROL
Fe-Cr BIAS ADJ.
CrO2 BIAS ADJ.
BIAS FINE ADJUST
OSC UNIT
2SC2240 x2
METAL REC EQ ADJ.
MIC REC LOGIC C.B
IC1 μPC1023H
MIC AMP
Q4 2SC945L(P,Q)
Q10 2SD414(Q)
Q8 2SC945L Q9 2SD414(Q) (P,Q)
Q11 2SC945L (P, Q)
R-ch IC2
RJACK C.B
J3 (L) MIC
J4 (R) MIC
J REMOTE CONTROL JACK C.B
CON-⑥-2
CON-⑥-3
CON-⑥-4
CON-⑥-1
SOL3 (REC)
TERMINAL C.B
VOLTAGE SELECTOR
S22 (VOLTAGE SELECTOR)
AC110/120/ 220/240V 50/60Hz
S10 POWER
T1(PT)
Q21 2SD414(Q)
CONST VOLTAGE
Q23 2SC945L(P,Q)
Q24 2SA733(RQ)
Q22 2SC1173(Y)
Q27 2SC1815(Y)
Q28 2SC1634(7)
Q39 2SC945L(P)
Q40 2SC945L(P)
S21 (CrO2 AUTO)
S4-1
S4-2
S4-3
S4-4
D7 1B4B1
D8 1B4B1
D11 1B4B1
D12 1B4B1
D13 1B4B1
D15 1S1555
D16 1S1555
MICROPROCESSOR C.B

AD-6700H,C,U,E,K,G
AD-6700H,C,U,E,K,G

SCHEMATIC DIAGRAM–2

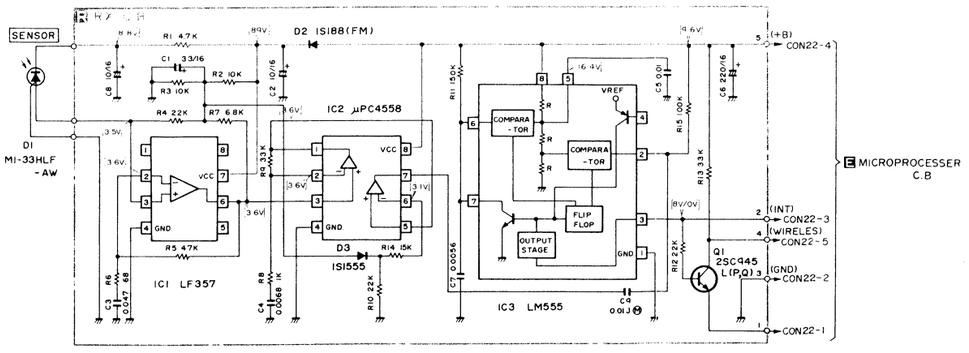
< CONTROL SECTION >



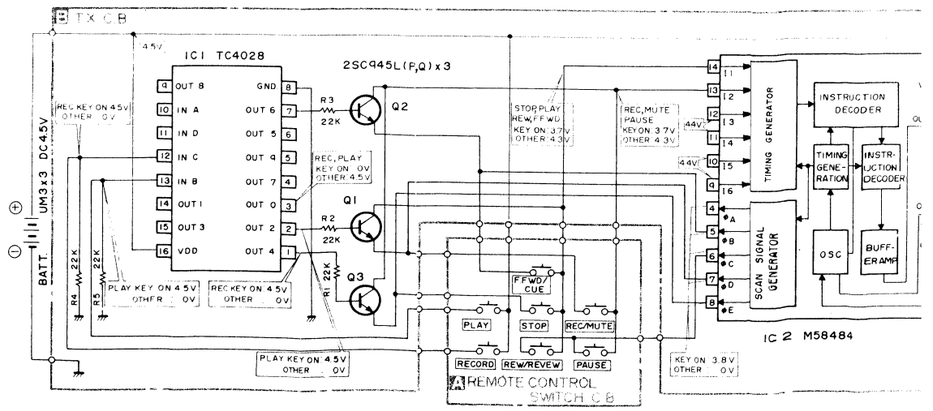
NOTES:

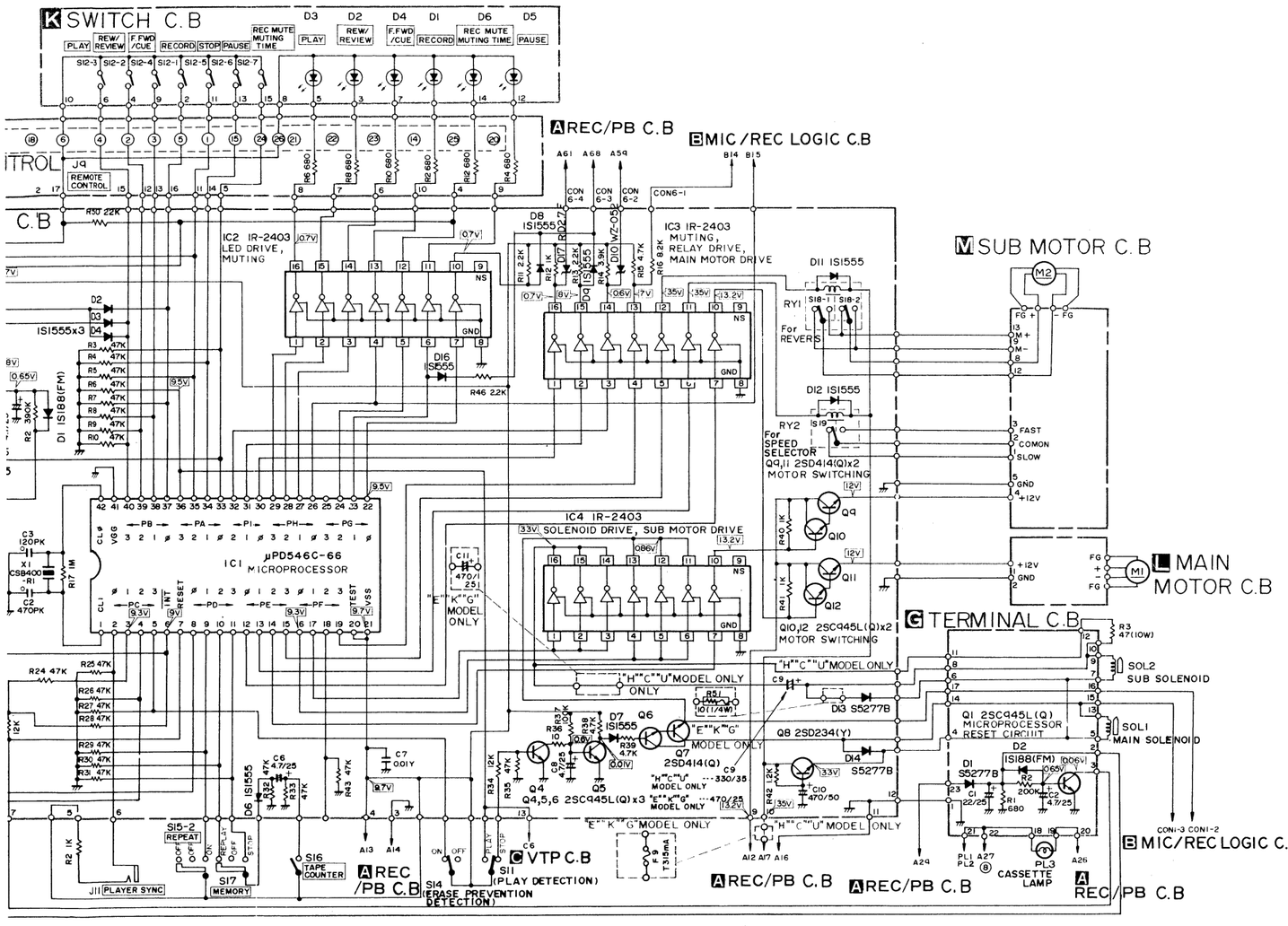
1) —— B (+) power supply ···· B
2) ⇝ Signal path
   ➡ Rec signal path. th.
3) The voltage is the reference v
   tester (20 k-ohms/V DC) when t
   But ( ) is with recording.
   An asterisk (*) indicates that tl
   with a vacuum-tube voltmeter d
4) Resistors with no designation h
   ¼W and a tolerance of ±5%.
5) Capacitors with no designati
   strength of less than 50WV.
6) The only capacitor tolerances
   ±5%(J) and ±10%(K).
7) Ceramic capacitor symbols:
   ⊣⊢ For temperature compensa
   ⊣⊢ High dielectric constant sys
   ⊣⊢ High dielectric constant sys
8) Explanation of symbols
   (M) Mylar capacitor
   (A) Aluminum solid capacitor
   (PP) Polypropylene film capacitc
   (BP) Bi-polarized capacitor
   (LL) Low-leakage capacitor
   (T) Tantalum capacitor
   (S) Styrol capacitor
   (DM) Dipped mica capacitor
   Fuse resistor
   (LN) Low noise resistor

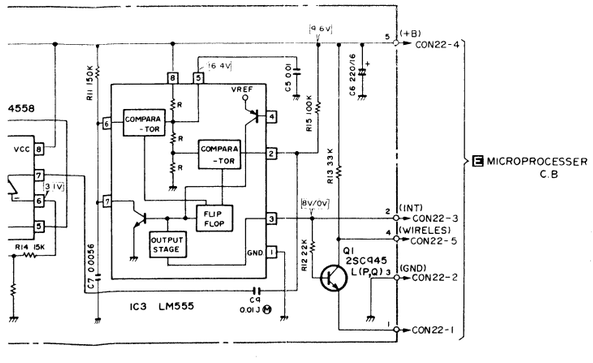
< RECEIVER SECTION >



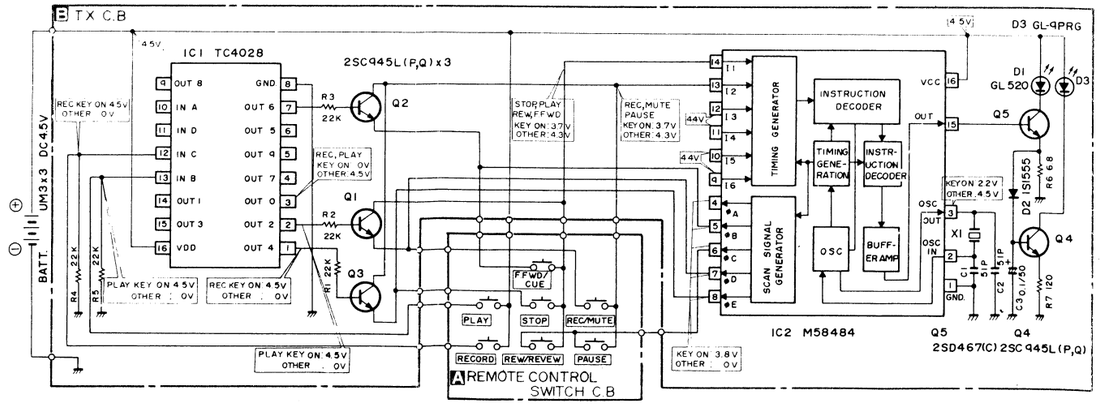
< REMOTE CONTROL SECTION >







<REMOTE CONTROL SECTION>



NOTES:

1) —— B (+) power supply —— B (−) power supply
2) ➡ Signal path
   ➡ Rec signal path. th.
3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals.
   But ( ) is with recording. ecording.
   An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.
4) Resistors with no designation have a rated power of ¼W and a tolerance of ±5%.
5) Capacitors with no designation have a dielectric strength of less than 50WV.
6) The only capacitor tolerances indicated are ±2%(G), ±5%(J) and ±10%(K).
7) Ceramic capacitor symbols:
   - For temperature compensation (SL)
   - High dielectric constant system (YY)
   - High dielectric constant system (YW, YP, YZ)
8) Explanation of symbols
   - (M) Mylar capacitor
   - (A) Aluminum solid capacitor
   - (PP) Polypropylene film capacitor
   - (BP) Bi-polarized capacitor
   - (LL) Low-leakage capacitor
   - (T) Tantalum capacitor
   - (S) Styrol capacitor
   - (DM) Dipped mica capacitor
   - Fuse resistor
   - (LN) Low noise resistor
9) Switches are set to the following positions.

S1-1 ~ 20	PLAY/REC (PLAY)
S2-1 ~ 4	INPUT SELECTOR (MIC)
S3-1 ~ 4	DOLBY NR (OFF)
S4-1 ~ 4	TAPE SELECTOR-BIAS (LH)
S5-1 ~ 4	TAPE SELECTOR-EQ (LH)
S6-1 ~ 4	METER (VU)
S7-1, 2	LINE OUT MUTING (OFF)
S8	PEAK HOLD
S9	
S10	POWER (OFF)
S11	PLAY DETECTION (STOP)
S12-1 ~ 7	LOGIC CONTROL BUTTONS
S13	CASSETTE DETECTION (ON)
S14	ERASE PREVENTION (ON)
S15-1, 2	TIMER (PLAY)
S16	TAPE COUNTER
S17	MEMORY (STOP)
S18-1, 2	SUB MOTOR SELECTOR
S19	SUB MOTOR SPEED SELECTOR (SLOW)
S20-1 ~ 2	PHONES MUTING (OFF)
S21	CrO_2 AUTO (OFF)
S22	VOLTAGE SELECTOR
S23-1 ~ 2	DIN OUTPUT LEVEL (FIXED) (VARIABLE)

Safety component symbol

⚠ This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

- This schematic diagram is subject to change without notice in the interests of improved performance.

WIRING–1

2. Azimuth Adjustment

Settings:
- Play back mode
- Output level: MAX
- Test tape: TTA-117E
- TAPE SELECTOR switch: CrO_2
- Adjustment location: azimuth adjusting screw

Method:
Play back the test tape and adjust so that the output of the 10 kHz section reaches the maximum.

10. Fe-Cr Bias Current Adjustment

Settings:
- Recording mode
- Test tape: TTA-119E
- Input signal: 400 Hz/5 kHz, 0VU-20 dB
- Output level: MAX
- TAPE SELECTOR switch: Fe-Cr
- BIAS FINE ADJUST: Center
- Adjustment location: TC1 (L-ch), TC2 (R-ch)

Method:
Record and play back the 400 Hz and 5 kHz signals. Adjust so that the 400 Hz and 5 kHz outputs are identical.

9. Bias Trap Coil Adjustment

Settings:
- Recording mode
- TAPE SELECTOR switch: Fe-Cr
- Test points: TP1 (L-ch), TP2 (R-ch)
- Adjustment locations: L7 (L-ch), L8 (R-ch)

Method:
Adjust L7, 8 so that the voltage at test point TP1, 2 is reduced to minimum value.

4. Playback Frequency Characteristic Adjustment

Settings:
- Test tape: TTA-117E
- Output level: MAX
- TAPE SELECTOR switch: CrO_2
- Adjustment locations: SFR1 (L-ch), SFR2 (R-ch)

Method:
Playback the test tape and adjust so that the 1 kHz and 10 kHz outputs are identical.

3. Playback level Adjustment

Settings:
- Test tape: TTA-161
- Output level: MAX
- TAPE SELECTOR switch: LH
- Adjustment locations: SFR3 (L-ch), SFR4 (R-ch)

Method:
Play back the test tape and adjust so that the output is 580 mV.

14. REC/PB Sensitivity Adjustment-1

Settings:
- Input signal: 400 Hz, 0VU
- Adjustment locations:
  1. Fe-cr SFR11 (L-ch), SFR12 (R-ch)
  2. CrO_2 SFR9 (L-ch), SFR10 (R-ch)
  3. LH SFR13 (L-ch), SFR14 (R-ch)

For others, proceed as for 13. Recording Equalizer Adjustment.

13. Recording Equalizer Adjustment-1

1. Fe-Cr tape

Settings:
- Recording mode
- Test tape: TTA-119E
- Output level: MAX
- TAPE SELECTOR switch: Fe-Cr
- Input signal: 400 Hz/16 kHz 0VU-20dB
- BIAS FINE ADJUST: Center
- Adjustment locations: L3 (L-ch), L4 (R-ch)

Method:
Adjust for identical record and playback Output.

Rating:
0 dB±0.5 dB

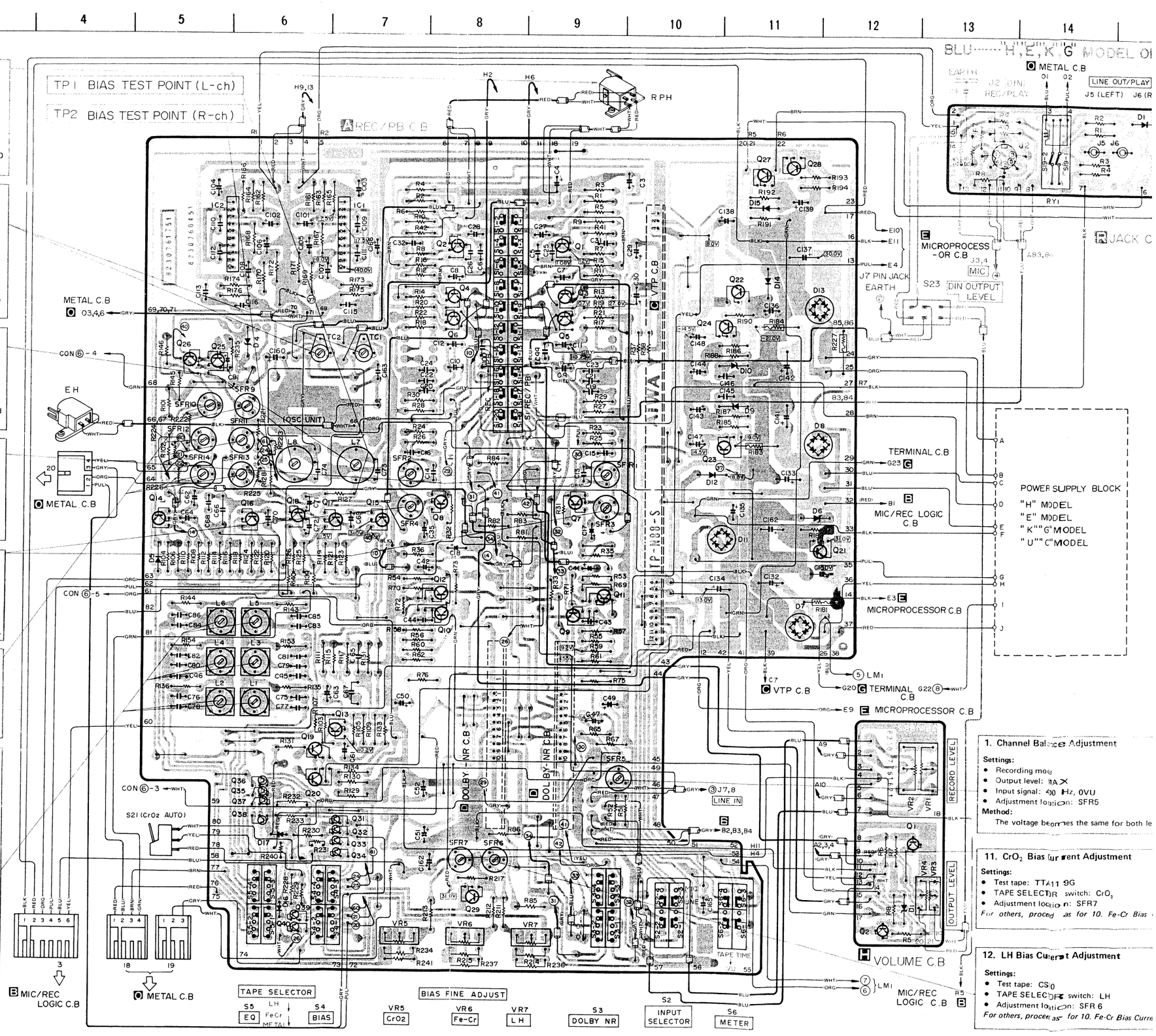
Settings differ as below CrO_2 and LH.

2. CrO_2 tape

Settings:
- Test tape: TTA-119G
- TAPE SELECTOR switch: CrO_2
- Input signal 400 Hz/16 kHz, OVU-20 dB
- Adjustment locations: L5 (L-ch), L6 (R-ch)

3. LH tape

Settings:
- Test tape: CS-10
- TAPE SELECTOR switch: LH
- Input signal 400 Hz/13 kHz, 0VU-20 dB
- Adjustment locations: L1 (L-ch), L2 (R-ch)



1. Channel Balance Adjustment

Settings:
- Recording mode
- Output level: MAX
- Input signal: 400 Hz, 0VU
- Adjustment location: SFR5

Method:
The voltage becomes the same for both le

11. CrO_2 Bias Current Adjustment

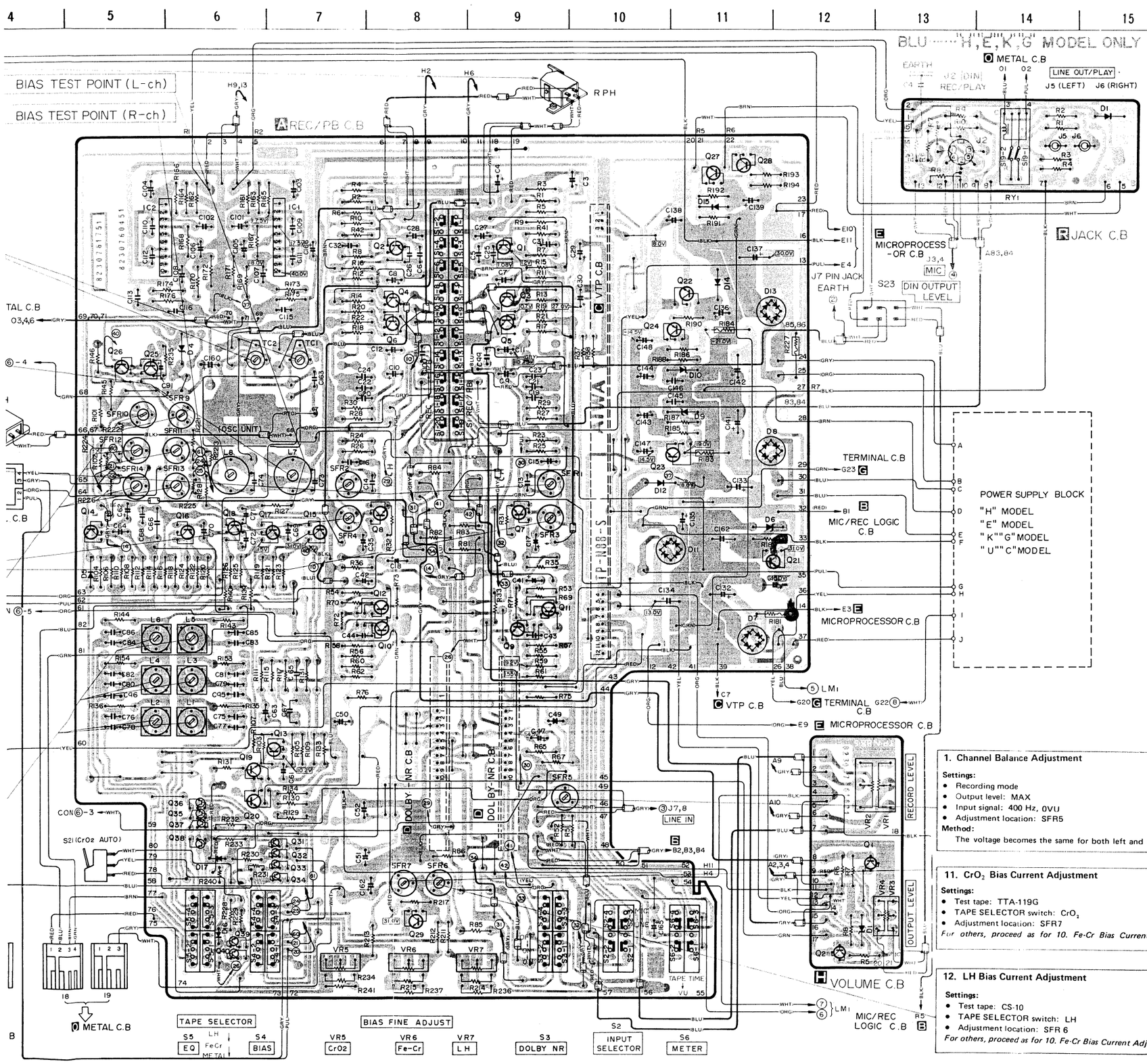
Settings:
- Test tape: TTA119G
- TAPE SELECTOR switch: CrO_2
- Adjustment location: SFR7

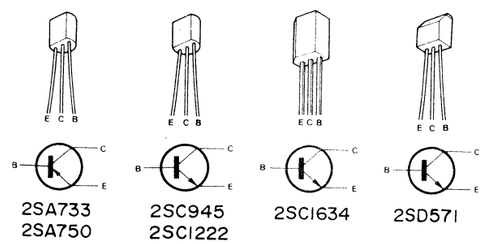
For others, proceed as for 10. Fe-Cr Bias

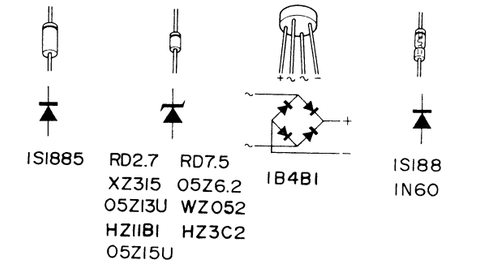
12. LH Bias Current Adjustment

Settings:
- Test tape: CS-0
- TAPE SELECTOR switch: LH
- Adjustment location: SFR 6

For others, proceed as for 10. Fe-Cr Bias Curre







1. Channel Balance Adjustment

Settings:
- Recording mode
- Output level: MAX
- Input signal: 400 Hz, 0VU
- Adjustment location: SFR5

Method:
The voltage becomes the same for both left and right channels.

11. CrO_2 Bias Current Adjustment

Settings:
- Test tape: TTA-119G
- TAPE SELECTOR switch: CrO_2
- Adjustment location: SFR7

For others, proceed as for 10. Fe-Cr Bias Current Adjustment.

12. LH Bias Current Adjustment

Settings:
- Test tape: CS-10
- TAPE SELECTOR switch: LH
- Adjustment location: SFR 6

For others, proceed as for 10. Fe-Cr Bias Current Adjustment.

NOTES

(1) B(+) Pattern B(−) Pattern Others patten

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.
An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.

AD-6700H,C,U,E,K,G
AD-6700H,C,U,E,K,G

WIRING–2

5. VU Meter Indication Adjustment

Settings:
- Recording mode
- Output level: MAX
- Input signal: 400 Hz, – 16 dB
- Adjustment locations: SFR3 (L-ch), SFR4 (R-ch)

Method:
Adjust the RECORD LEVEL so that the output of 410 mV
Adjust so that VU meter indication is 0VU.

6. Peak Indicator Adjustment-1

Settings:
- Output level: MAX
- Input signal: 400 Hz – 16 dB
- Adjustment locations: SFR5

Method:
Adjust the RECORD LEVEL so that the VU meter indication is 0VU.
Following adjust SFR5 so that the 0VU LED lights up.

7. Tape Time 0 Point Adjustment

Settings:
- TAPE SELECTOR switch: Fe-Cr
- METER: TAPE TIME
- Test tape: AIWA Fe-Cr C-60
- Adjustment location: SFR1

Method:
Run the test tape for 90 seconds beginning at the magnetic substance of the tape. (from the RPH passing point)
Then turn the tape over and adjust the so that the indicator points to "0" within 30–60 seconds from that point

8. Tape Time Full scale Adjustment

Settings:
- TAPE SELECTOR switch: Fe-Cr
- METER: TAPE TIME
- Test tape: AIWA Fe-Cr C-60
- Adjustment location: SFR2

Method:
Adjust SFR2 so that the indicator points to "Full Scale" when first starting to wind the test tape.

C VTP C.B ↑14 C VTP C.B ↑16

"E""K""G"MODEL ONLY

BLK → H18 H VOLUME C.B
RED → A32
GRY → A48,50,51 A REC/PB C.B

IPUL → E13 E MICROPROCESSOR C.B
BLK → A39 A REC/PB C.B

82-307-624-31 GCMK-29EH8

P PEAK HOLD C.B

D DOLBY-NR C.B

S8 PEAK HOLD

SOL3 (REC SOLENOID)

R1 56Ω 10W

82-307-613-41 GCMK-29EH8

C VTP C.B

6. Peak Indicator Adjustment-2

Settings:
- Input signal: 400 Hz, 0VU + 10 dB
- Adjustment location: SFR6

Method:
Adjust SFR6 so that the +10 dB LED lights up.
Finally +10 dB LED put out when input signal decrease by 5 dB.

B MIC/REC LOGIC C.B

CHASSIS EARTH

WHT → A59
GRN → A68
ORG → A61
A REC/PB C.B

S17 MEMORY STOP OFF REPLAY
S15 TIMER REC OFF TIMER PLAY
S16 TAPE COUNTER
REPEAT

LINE IN/REC
J7 (LEFT) J8 (RIGHT)

M SUB-MOTOR C.B

E MICROPROCESSOR C.B

LM2 VU RIGHT LEVEL
LM1 VU/TAPE TIME LEFT LEVEL

N DME-C.B -1

G TERMINAL C.B G21 ④

⑫ S23

GRY → ③ A46,47,49 A MAIN C.B

J1 PHONES
J3 L MIC
J4 R

RED ····· "C","U" MODEL ONLY
BLU ····· "H","E","K","G" MODEL ONLY

④ R11,12,13 R JACK C.B

⑤ ⑥ ⑦ A38 A55 A54 A REC/PB C.B

10 E MICROPROCESSOR C.B

05,7,8 O METAL C.B

M2

8 E MICROPROCESSOR C.B

J DME C.B-2

17 C VTP C.B

PEAK LED CR

15 C VTP C.B

5 6 7 8 9 10 11 12 13 14 15 17

ıdicator Adjustment-1

evel: MAX
nal: 400 Hz – 16 dB
ent locations: SFR5

he RECORD LEVEL so that the VU meter indication

g adjust SFR5 so that the 0VU LED lights up.

D lights up.
nput signal decrease by 5 dB.

7. Tape Time 0 Point Adjustment

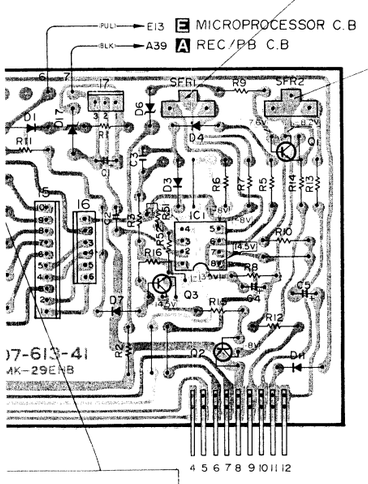
Settings:
- TAPE SELECTOR switch: Fe-Cr
- METER: TAPE TIME
- Test tape: AIWA Fe-Cr C-60
- Adjustment location: SFR1

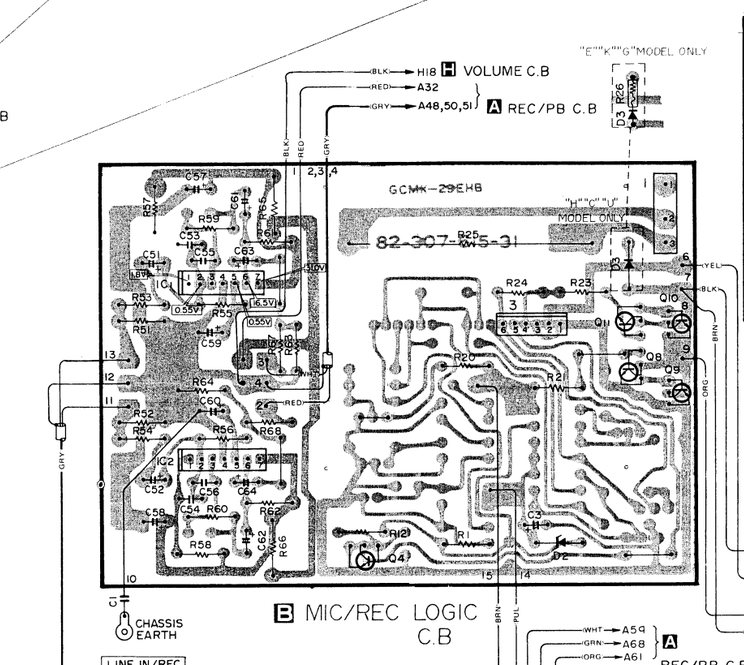
Method:
Run the test tape for 90 seconds beginning at the magnetic substance of the tape. (from the RPH passing point)
Then turn the tape over and adjust the so that the indicator points to "0" within 30 - 60 seconds from that point

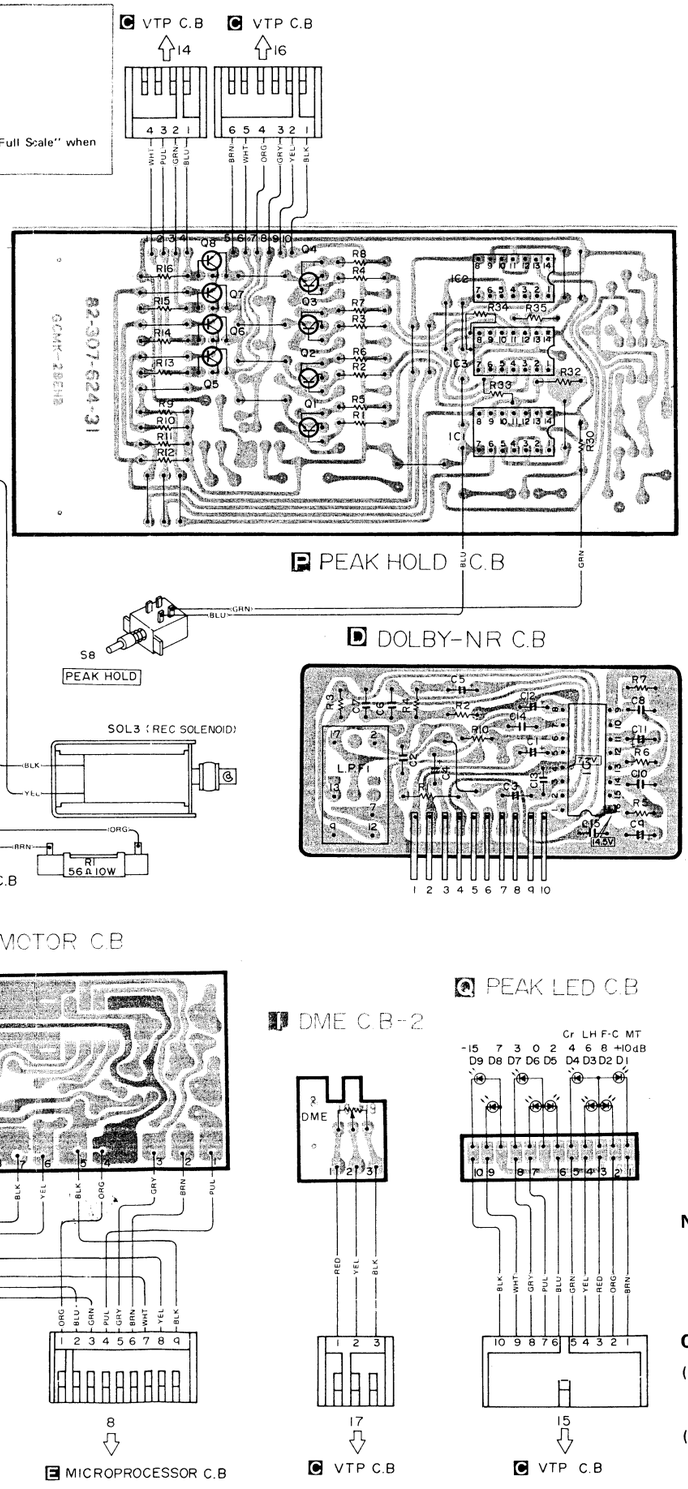
8. Tape Time Full scale Adjustment

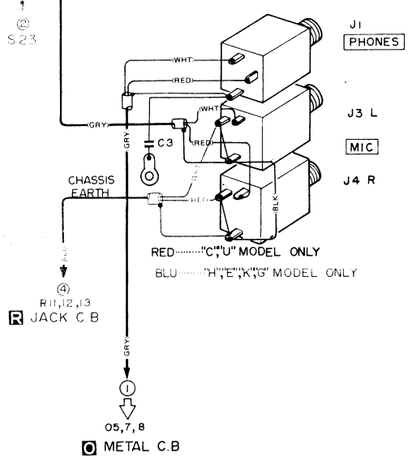
Settings:
- TAPE SELECTOR switch: Fe-Cr
- METER: TAPE TIME
- Test tape: AIWA Fe-Cr C-60
- Adjustment location: SFR2

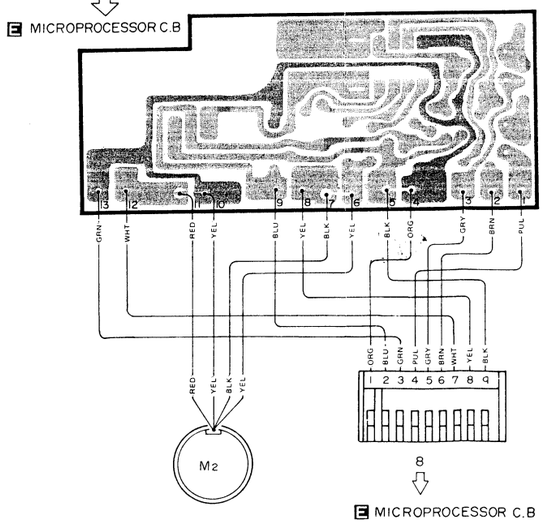
Method:
Adjust SFR2 so that the indicator points to "Full Scale" when first starting to wind the test tape.











NOTES

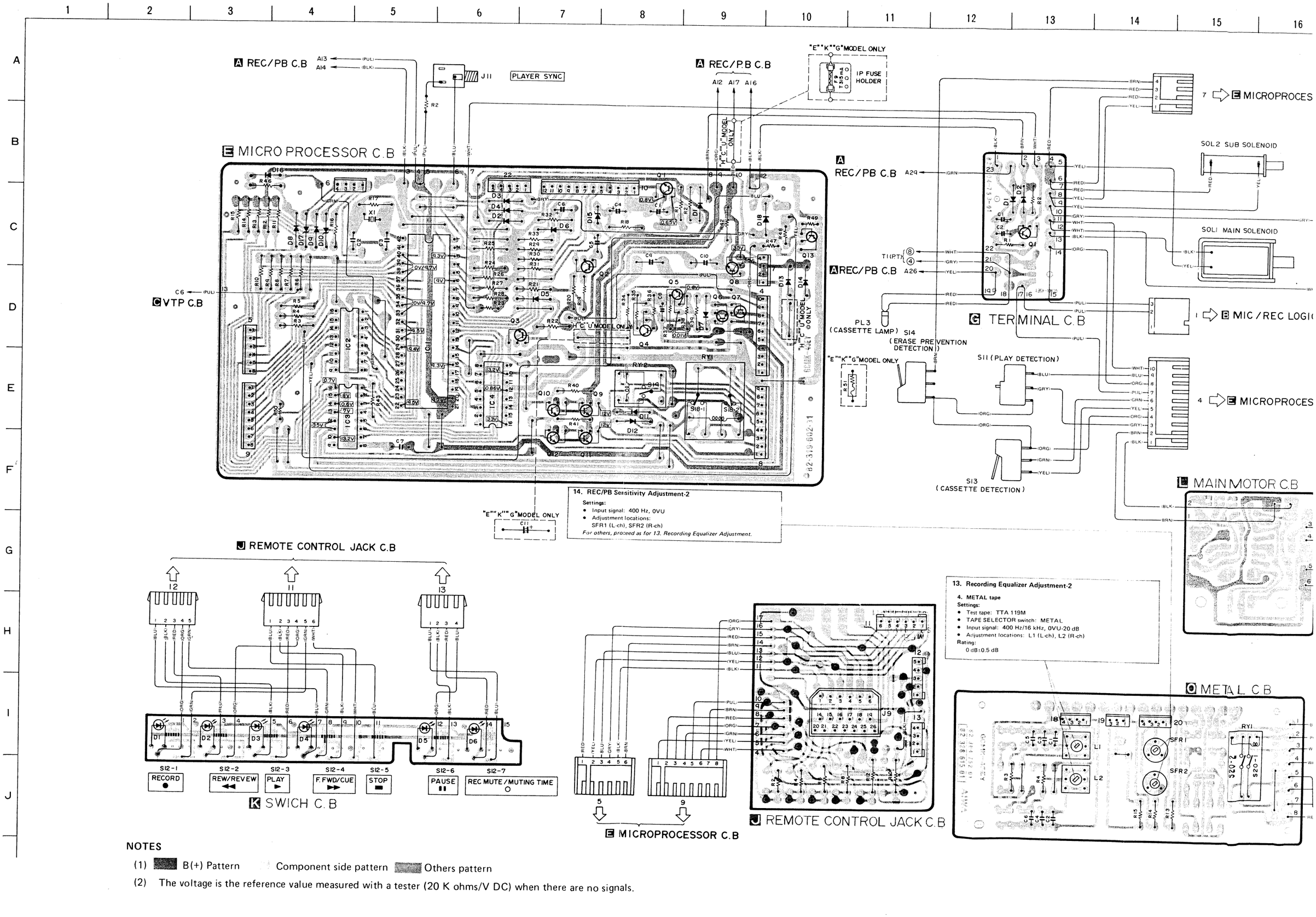
(1) B(+) Pattern B(–) Pattern Others pattern

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

CMOS IC handling precautions

(1) The CMOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.

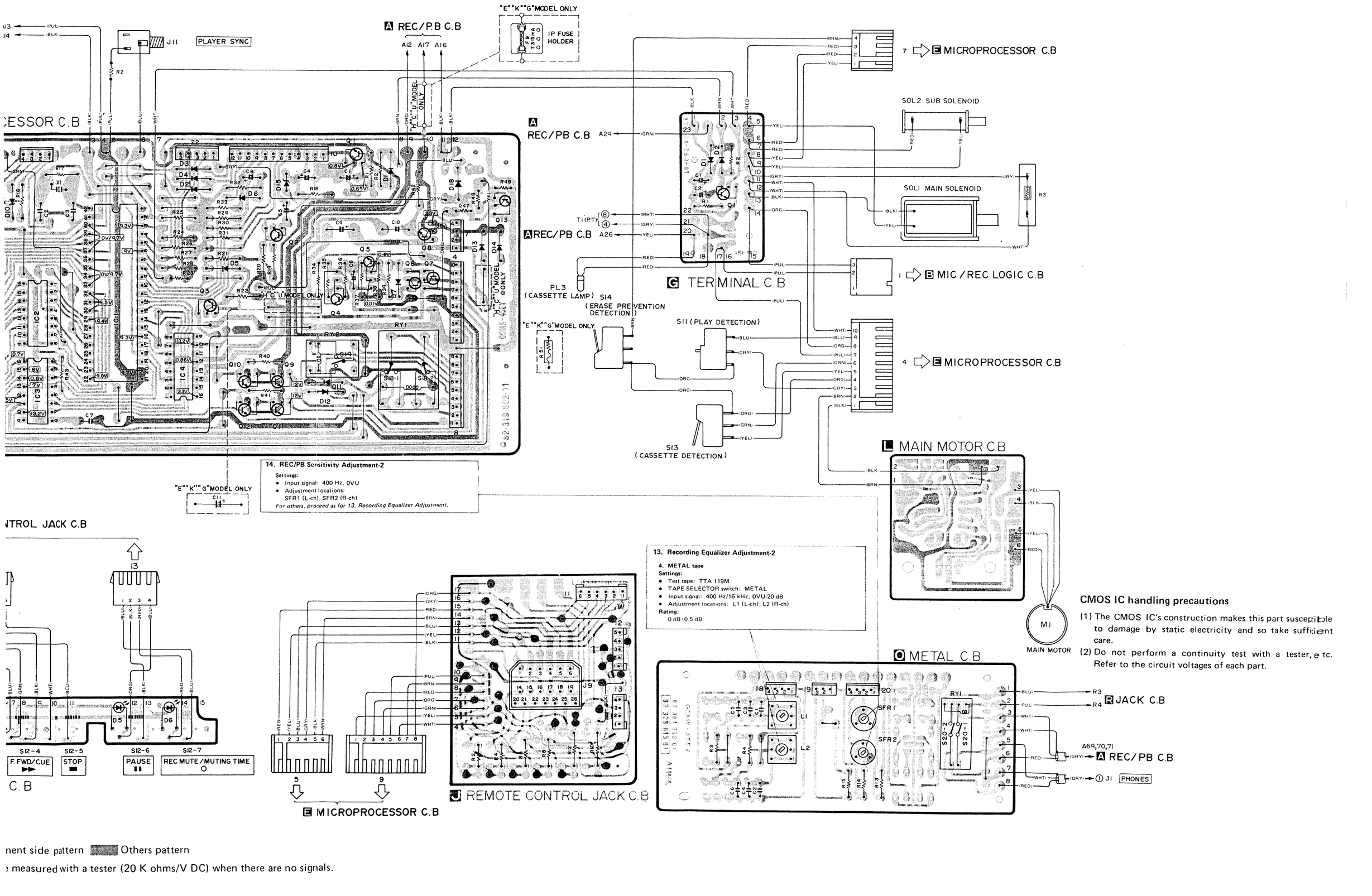
(2) Do not perform a continuity test with a tester, etc. Refer to the circuit voltages of each part.



NOTES

(1) B(+) Pattern Component side pattern Others pattern

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.



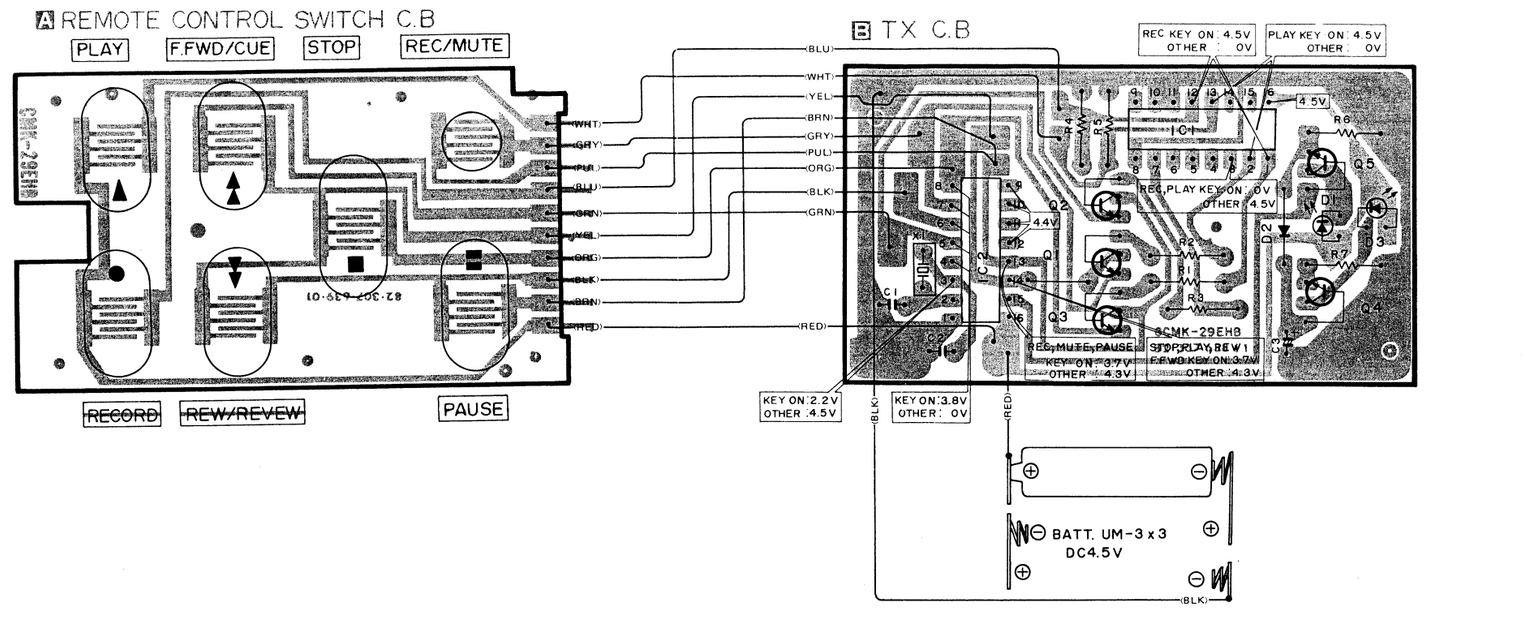
nent side pattern Others pattern

: measured with a tester (20 K ohms/V DC) when there are no signals.

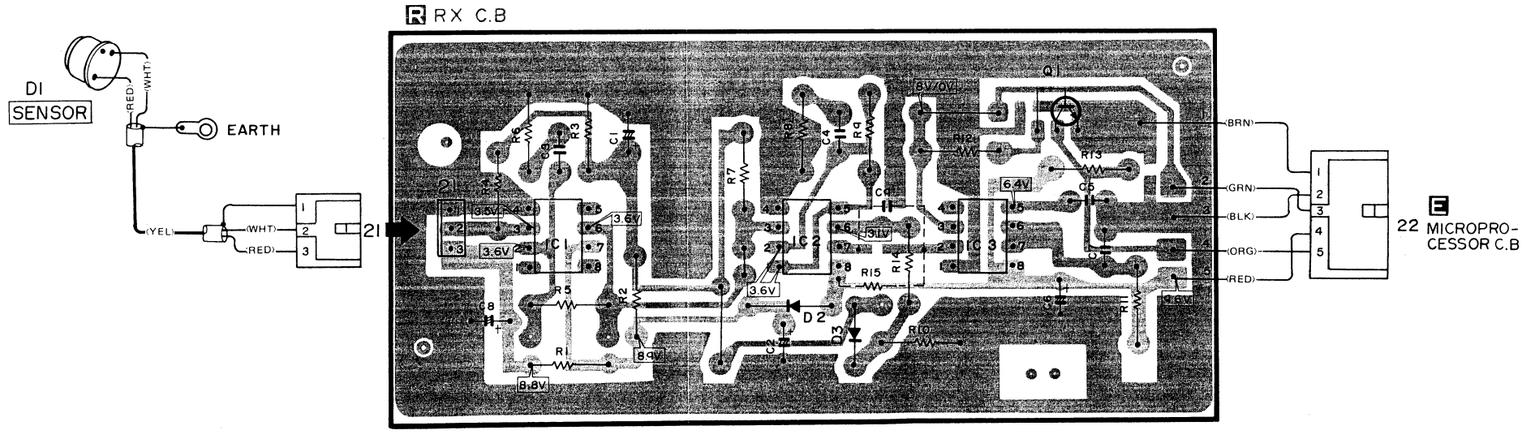
AD-6700H,C,U,E,K,G AD-6700H,C,U,E,K,G

WIRING–4

<REMOTE CONTROL SECTION>

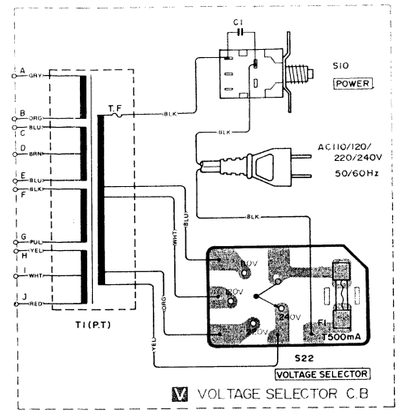


<RECEIVER SECTION>

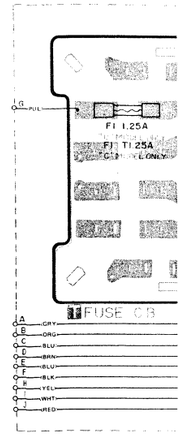


<POWER SECTION>

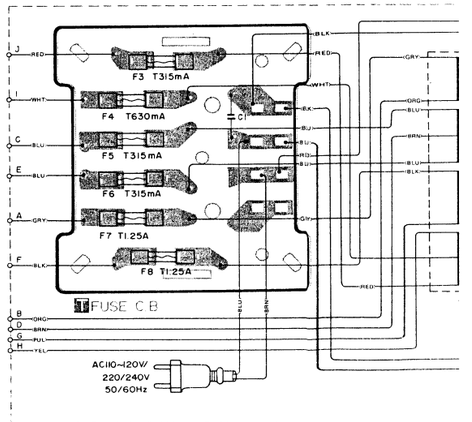
H MODEL



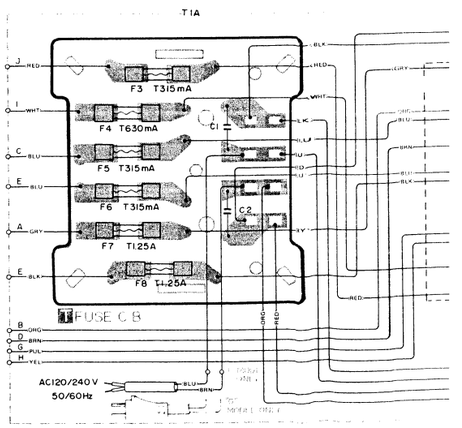
U,C MODEL



E MODEL



K,G MODEL



NOTES

(1) B(+) Pattern Others pattern

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

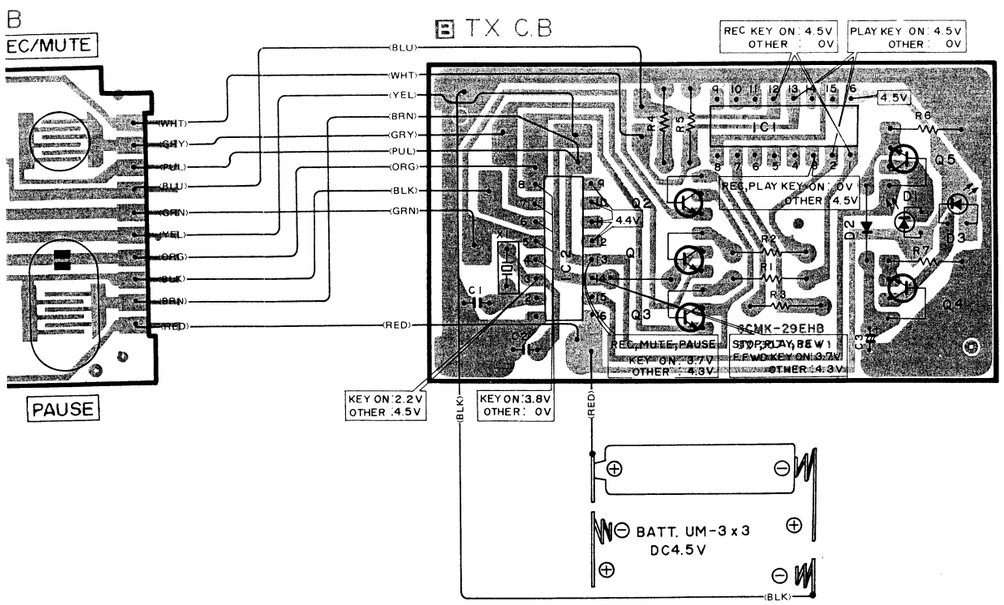
CMOS IC handling precautions

(1) The CMOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.

(2) Do not perform a continuity test with a tester, etc. Refer to the circuit voltages of each part.

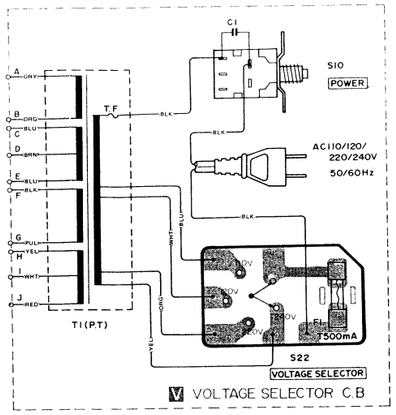
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

B
EC/MUTE

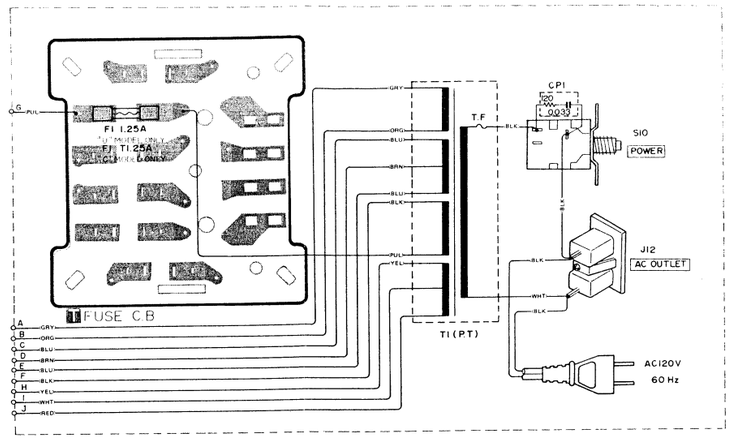


<POWER SECTION>

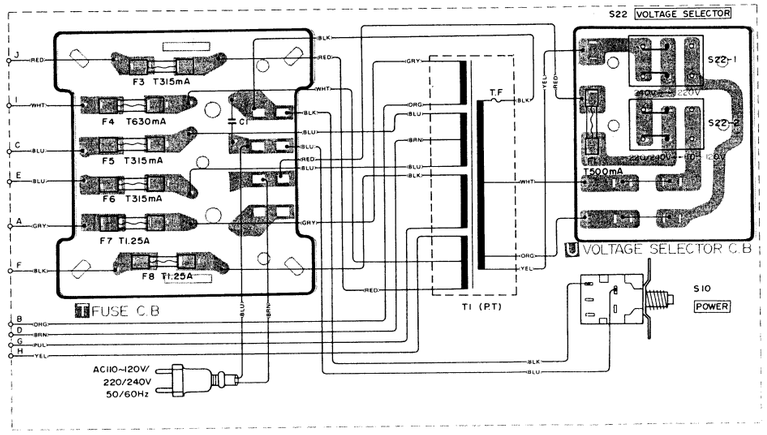
H MODEL



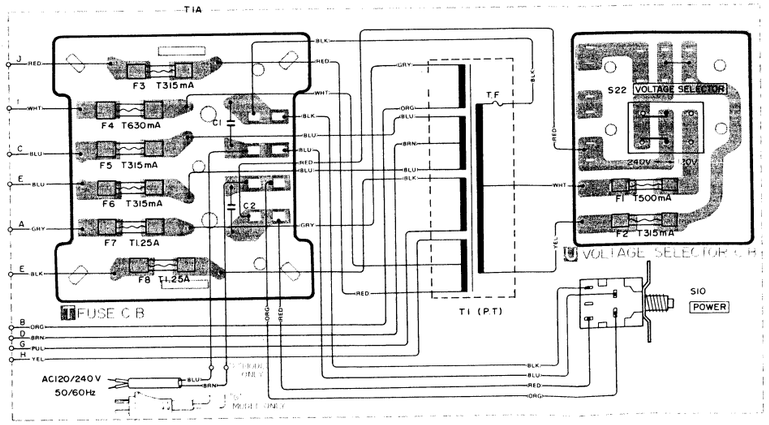
U,C MODEL



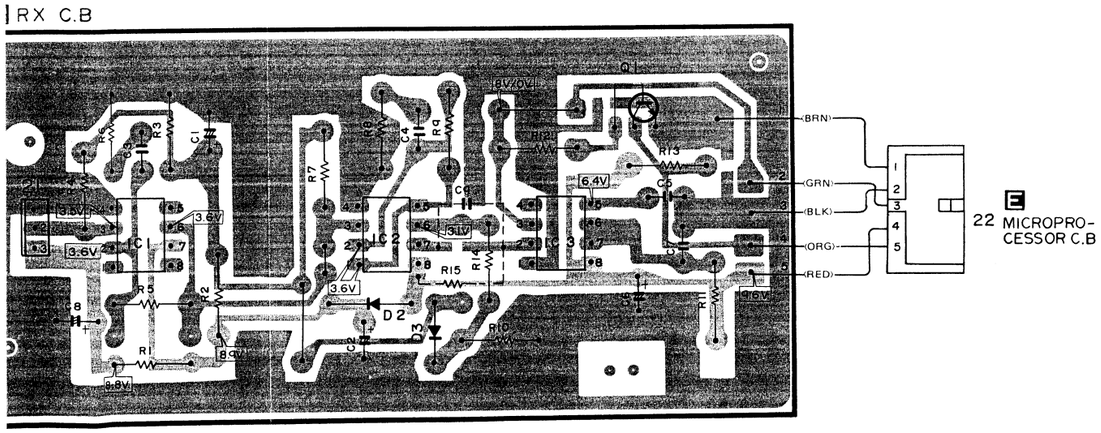
E MODEL



K,G MODEL



RX C.B



ıttern
neasured with a tester (20 K ohms/V DC) when there are no signals.

CMOS IC handling precautions

(1) The CMOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.
(2) Do not perform a continuity test with a tester, etc. Refer to the circuit voltages of each part.

AIWA

SPECIAL CIRCUITRY DESCRIPTION

1. Logic control system

1. μPD-546C-66 microprocessor

The μPD-546C-66 is a 4-bit, 1-chip microprocessor which is designed to control the mechanism's plungers, motors and relays, and also the display of the mechanism's operating modes and the muting of the audio circuits.

Pins are provided, as indicated below, for these control operations.

1. Clock (400kHz) oscillation pin
2. Turntable synchronize operation input pin
3. Muting selector pin
4. Wireless remote control input pin
5. REC erroneous erasure prevention tab detection pin
6. Wireless remote control interruption pin
7. Reset pin
   (Microprocessor is set to shutdown mode when this pin is at "high" level.)
8. DME input pin used for auto stop detection
9. Repeat ON/OFF pin
10. Memory play ON/OFF pin
11. Memory stop ON/OFF pin
12. Main motor ON/OFF pin
13. Sub motor speed control pin (FAST ⟷ SLOW)
14. Sub motor ON/OFF pin
15. Relay ON/OFF pin
    (Sub motor rotation direction is reversed)
16. Main plunger ON/OFF pin
17. Sub plunger ON/OFF pin
18. Microprocessor check pin
    (Square waves with a certain period are made available.)
19. REC OSC control pin
20. Test pin (used for testing by microprocessor manufacturer)
21. Vss pin
    (+10V power pin)
22. REC mute ON/OFF pin
23. PAUSE display ON/OFF pin
24. REC mute display ON/OFF pin
    (Flickers at 1 second cycles)
25. No contact
26. REC display and REC plunger control pin
27. FF display ON/OFF pin
28. REW display ON/OFF pin
29. PLAY display ON/OFF pin
30. Play amp mute ON/OFF pin
31. REC amp mute ON/OFF pin
32. Cue/review amp mute ON/OFF pin
33. REC mute input switch pin
34. PAUSE mute input switch pin
35. STOP mute input switch pin
36. Mechanism operation check switch pin
    (Mechanism operation chassis stops and switch set to ON when PLAY is continued.)
37. REC input switch and timer REC pin
38. FF input switch pin
39. REW input switch pin
40. PLAY input switch and timer PLAY pin
41. V_{GG} pin (GND power pin)
42. Clock (400kHz) oscillation pin

2. Initialization when microprocessor power is switched on

In order for the microprocessor to work normally, the reset pin 7 must be set to the "high" level for a fixed time (minimum 4 clcok, 10 μsec).

Once the microprocessor is reset, the internal program counter is set to "0" and the output ports are set to OFF, or in other words to OPEN.

When the reset pin is set to the "low" level, the microprocessor starts from the program counter "0" and the predetermined commands are executed in order.

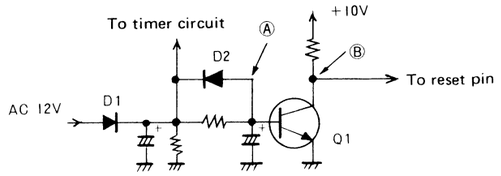


Fig. 1 Reset circuit

In order for the switching on and off of the power to be rapid, separate rectification is provided from the transformer (low time constant). Furthermore, part of the power supply is also used for the timer circuit.

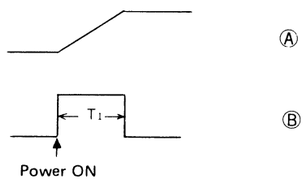


Fig. 2 Waveforms at points A and B

3. Timer REC/PLAY circuit

The timer's REC/PLAY functions are checked first by the microprocessor and part of the power supply of the reset circuit is used.

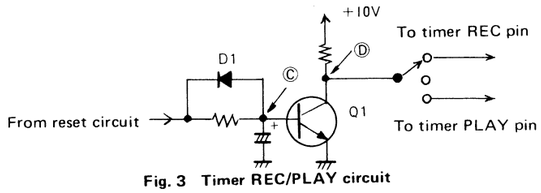


Fig. 3 Timer REC/PLAY circuit

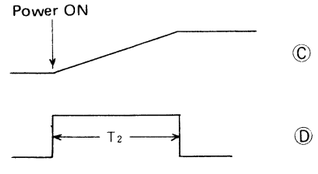


Fig. 4 Waveforms at points C and D

The reset and timer signals have the following relationship and when this relationship no longer exists, the timer REC and PLAY functions are not executed.

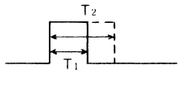


Fig. 5

4. DME amp circuit

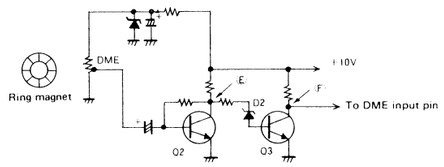


Fig. 6 DEM amp circuit for auto stop detection

Q2 is the DME amp and Q3 is for waveform shaping.

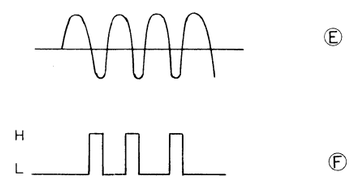


Fig. 7 Waveforms at points E and F

The potential at point F is low when the ring magnet is stationary but when it rotates, the potential alternates between high and low. The period is 8 to 16Hz.

5. Main plunger reduced voltage shift circuit

The plunger goes to ON with a command of the main plunger ON, and when the play detection switch which is coupled with the activation chassis goes to ON, the voltage is reduced over a fixed time interval.

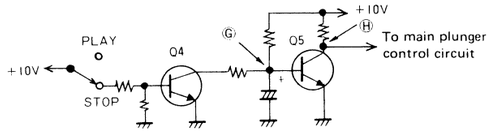
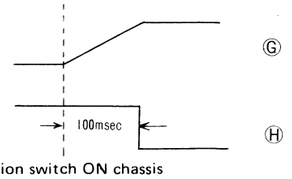


Fig. 8 Reduced voltage shift circuit



Play detection switch ON chassis

Slide chassis continuous switch ON

Fig. 9 Waveforms at points G and H

6. Output relationships in normal operation modes

The operation symbols stand for the following:

♀ ·····REC　　|| ·····PAUSE
▷ ·····PLAY　　□ ·····STOP
▷▷·····FF　　♀M ·····REC MUTE
◁◁·····REW　　1 ·····ON　　No symbol ·····OFF

Output / Mode	Display ♀	◁◁	▷	▷▷	□□	♀M	Mechanism Main retry	Sub retry	Sub FAST	Relay	Main plunger	Sub plunger	Muting REC AMP	REC OSC	REC mute	PLAY AMP	C
▷			1				1	1			1		1	1			
▷▷				1				1	1			1	1	1		1	
◁◁		1						1	1	1		1	1	1		1	
▷·▷▷			1	1			1	1				1	1	1			1
▷·◁◁		1	1				1	1		1		1	1	1			1
▷·□□			1		1		1						1	1		1	
♀	1																
♀·▷	1		1				1	1			1						
♀·||	1				1												
♀·▷·||	1		1		1		1										
♀·□·♀M	1		1			1	1	1			1				1		

Fig. 10

7.

* Fig. 11 gives the response to the mode prior to the function keys.
* Fig. 12 gives the response to the double depressing of the function keys.
* Fig. 13 shows the mechanism timing and audio muting timing with respect to the above operations.
* Fig. 14 gives the responses to the peripheral switches.

When the switch is depressed and electrically locked

Input \ Current mode	♀	◁◁	▷	▷▷	□□	□	♀·▷	♀·▷·||
♀	← ♀	← ◁◁	← ▷	← ▷▷	♀ □□	♀	← ♀	← ⋈
◁◁	◁◁ ×	← ◁◁	◁◁ (REV) ▷	◁◁ ×	◁◁ ×	◁◁	REV ▷	REV ▷
▷	▷ ×	▷ ×	← ▷	▷ ×	▷ ×	▷ □□ ▷	← ♀·▷	← ⋈
▷▷	▷▷ ×	▷▷ ×	▷▷ (CUE) ▷	← ▷▷	▷▷ ×	▷▷	CUE ▷	CUE ▷
□□	= ♀	← ◁◁	= ▷	← ▷▷	= =	=	= ♀·▷	= ♀·
♀M	← ♀	← ◁◁	← ▷	← ▷▷	← □□	♀M	♀M ♀·▷	· ⋈
□	□ ×	□ ×	□ ×	□ ×	□ ×	□	□ ×	□ ×

Mode for input / Action of previous mode — Indicates response

X : indicates OFF
← : indicates no change

□□ : PAUSE
|| : STOP
♀M : REC MUTE
□ : Reversal of previous □ mode

♀ : REC
◁◁ : REW
▷ : PLAY
▷▷ : FF

Tab not broken out for REC (recording is possible)

Fig. 11

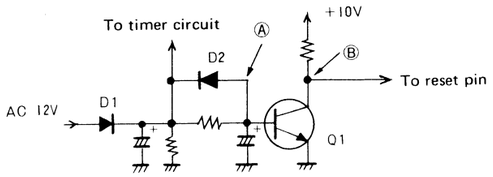


Fig. 1 Reset circuit

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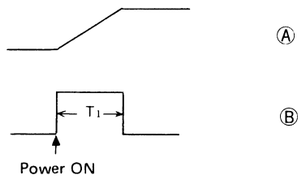

Fig. 2 Waveforms at points A and B

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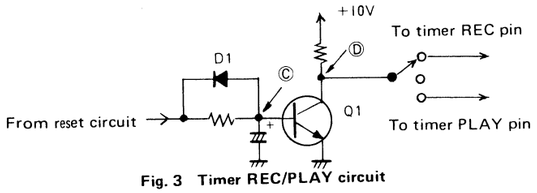
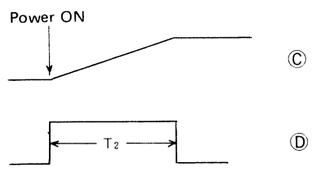


Fig. 3 Timer REC/PLAY circuit



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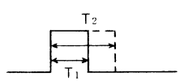
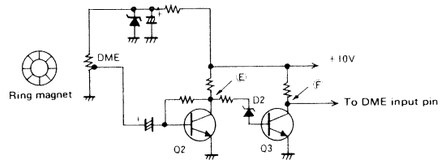


Fig. 5

4. DME amp circuit



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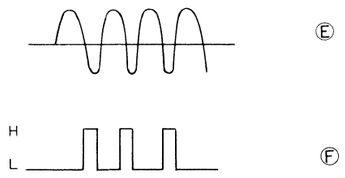
Q2 is the DME amp and Q3 is for waveform shaping.



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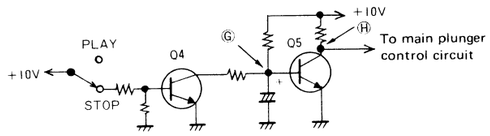
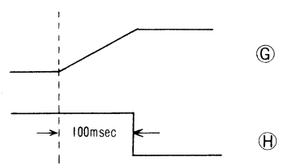


Fig. 8 Reduced voltage shift circuit



Play detection switch ON chassis

Slide chassis continuous switch ON

Fig. 9 Waveforms at points G and H

6. Output relationships in normal operation modes

The operation symbols stand for the following:

♀ ·····REC　　❙❙ ·····PAUSE
▷ ·····PLAY　　■ ·····STOP
▷▷ ·····FF　　♀M ·····REC MUTE
◁◁ ·····REW　　1 ·····ON　　No symbol ·····OFF

Output / Mode	Display ♀	◁◁	▷	▷▷	□□	♀M	Mechanism Main motor	Sub motor	Sub FAST	Relay	Main plunger	Sub plunger	Muting REC AMP	REC OSC	REC mute	PLAY AMP	C R AMP
▷			1				1	1			1		1	1			
▷▷				1				1	1			1	1	1		1	
◁◁		1						1	1	1		1	1	1		1	
▷·▷▷			1	1			1	1				1	1	1			1
▷·◁◁		1	1				1	1		1		1	1	1			1
▷·□□			1		1		1						1	1		1	
♀	1																
♀·▷	1		1				1	1			1						
♀·❙❙	1				1												
♀·▷·❙❙	1		1		1		1										
♀·▷·♀M	1		1			1	1	1			1				1		

Fig. 10

7.

* Fig. 11 gives the response to the mode prior to the function keys.
* Fig. 12 gives the response to the double depressing of the function keys.
* Fig. 13 shows the mechanism timing and audio muting timing with respect to the above operations.
* Fig. 14 gives the responses to the peripheral switches.

When the switch is depressed and electrically locked

Input \ Current mode	♀	◁◁	▷	▷▷	□□	□	♀·▷	♀·▷·❙❙	▷·❙❙
♀	← ♀	← ◁◁	← ▷	← ▷▷	♀ □□	♀	← ♀	← ▷▷	← ▷·□□
◁◁	◁◁ ×	← ◁◁	◁◁ (REV) ▷	◁◁ ×	◁◁ ×	◁◁	REV ▷	REV ▷	REV ▷
▷	▷ ×	▷ ×	← ▷	▷ ×	▷ □□	▷	← ♀·▷	← ▷▷	← ▷·□□
▷▷	▷▷ ×	▷▷ ×	▷▷ (CUE) ▷	← ▷▷	▷▷ ×	▷▷	CUE ▷	CUE ▷	CUE ▷
□□	□□ ♀	← ◁◁	□□ ▷	← ▷▷	□□ □□	□□	□□ ♀·▷	□□ ♀·▷	□□ ▷
♀M	← ♀	← ◁◁	← ▷	← ▷▷	← □□	♀M	♀M ♀·▷	← ▷▷	← ▷·□□
❙❙	❙❙ ×	❙❙ ×	❙❙ ×	❙❙ ×	❙❙ ×	❙❙	❙❙ ×	❙❙ ×	❙❙ ×

Mode for input / Action of previous mode — Indicates response

X : indicates OFF
← : indicates no change
Tab not broken out for REC (recording is possible)
□□ : PAUSE
❙❙ : STOP
♀M : REC MUTE
□□ : Reversal of previous □□ mode
♀ : REC
◁◁ : REW
▷ : PLAY
▷▷ : FF

Fig. 11

When the switch is depressed, electrically locked, and then kept in the depressed position

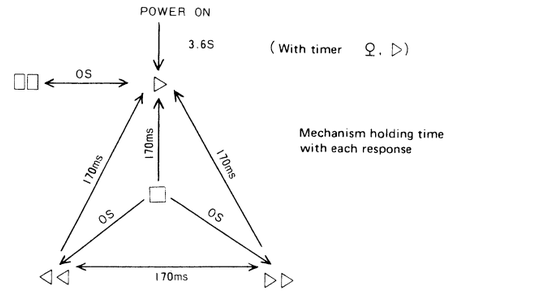
Current mode / Input	♀	◁◁	♀ ▷	▷▷	□□	■	▷·◁◁ (REV)	▷·▷▷ (CUE)	♀	♀▷·□□	▷·□□
♀	← ◁◁	▷ ← ▷▷	♀ □□	□	← REV	← CUE				♀ ▷·□□	
◁◁	◁◁ ×	◁◁ (REV) ▷	□ ×	◁◁ ×	□		▷ ▷	◁◁ (REV) ◁	◁◁ (REV) ▷	◁◁ (REV) ▷	
▷	▷ ♀	▷ (REV) ◁◁	▷ (CUE) ▷▷	▷ □□	□	← REV	← CUE				
▷▷	▷▷ ×	□ ×	▷▷ (CUE) ▷	▷▷ ×	□	▷ ▷		▷▷ (CUE) ▷	▷▷ (CUE) ▷	▷▷ (CUE) ▷	
□□	□□ ♀	← ◁◁	□□ ▷	← ▷▷	□	← REV	← CUE	□□ ♀·▷			
♀M	← ♀	← ◁◁	← ▷	← ▷▷	← □□	□	← REV	← CUE	♀M ♀·▷	← ♀·▷ □□	← ▷·□□
❙❙	□ ×	□ ×	□ ×	□ ×	□ ×	□	□ ×	□ ×	□ ×	□ ×	□ ×

Mode for input / Action of previous mode — Indicates response

X : indicates OFF
← : indicates no change
Tab not broken out for REC (recording is possible)
□□ : Reversal of previous □□ mode

Fig. 12

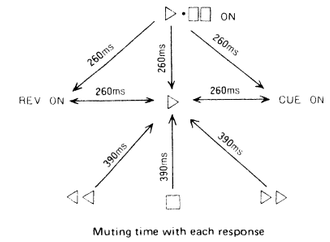
Mechanism timing



Mechanism holding time with each response

Fig. 13

Muting timing (play amp)



Muting time with each response

Fig. 14

Responses for peripheral switches

Input \ Switch mode	Timer ▷	Timer ♀	Memory ▷	Memory □	Auto repeat	Turntable sync
POWER ON	▷	♀·▷				
9 9 9 AT ◁◁			▷	□		
DME OFF AT ▷					▷	
DME OFF AT ▷					◁◁	
Turntable sync AT ♀·▷						□□

↑ Number of repeats, stop at 8

● Cassette box open, all the keys inoperable
● Auto stop 2.5 seconds after DME OFF
● □□ : Reversal of previous □□ mode

Fig. 15

8. How to use the microprocessor check pin 18

Square waves with a fixed period are made available at this pin and the period changes in accordance with the operations.

A GO/NO GO evaluation of the microprocessor can be performed by observing these waveforms.

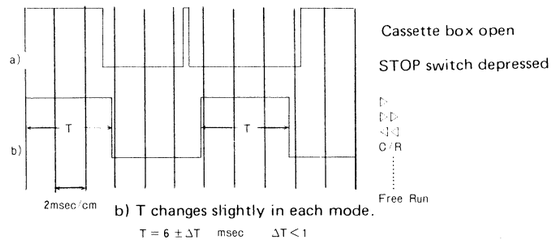


Fig. 16

2. Wireless remote control system

Outline

The contents of the key operation of the remote control unit (RC-100) are converted into a 6-bit transmission code, and pulses which are pulse-code-modulated by the 40kHz carrier are transmitted by the infrared light-emitting diode.

These pulses are received by the PIN diode sensor and the contents of the wireless signals are decoded by the builtin microprocessor.

The range over which these pulses can be transmitted in a straight line is about 8 meters, and the range with an allowable angle of ±45° is about 4 meters.

1. Transmitter

Block diagram

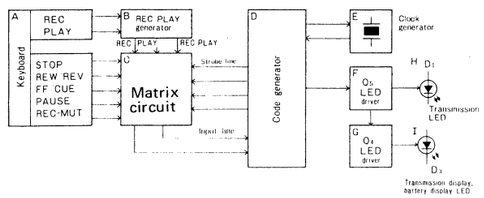


Fig. 17

A. Keyboard

Among the seven key switches, the REC and PLAY switches are double keys which set the unit to the recording mode. This means that their output is sent via the REC/PLAY generator to the matrix circuit and that the outputs of the other key switches are sent straight to the matrix circuit.

B. REC/PLAY generator

Along with the operation of the REC and PLAY keys, the generator generates REC, PLAY and REC/PLAY signals which are fed into the matrix circuit. This employs the TC-4028 decoder IC, B/C are used as inputs while A/D are grounded and set to the "L" level. During play only B goes to "H" while C/A/D go to "L" and output "2" goes to "H". During recording only C goes to "H" and "4" goes to "H". With the REC/PLAY (double key) B/C go to "H" and "6" goes to "H". By applying this output to the base of the matrix circuit transistor, the transistor's mode is switched.

C. Matrix circuit

The output signals of the eight keys generated under A and B are converted into a 4 x 2 matrix, and they are fed into the code generator from the strobe line and input line.

*** Key scan strobe signal**

In order to locate the contact point of the key matrix, $\phi B - \phi E$ are sent with the waveforms in the figure on the under by the sweep pulses applied at fixed time and intervals.

(Key scan strobe signal)

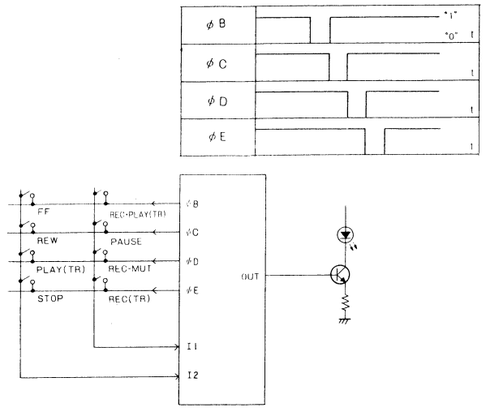


Fig. 18

*** Key matrix figure**

	$\overline{I_1}$	$\overline{I_2}$
$\overline{\phi B}$	FF	REC・PLAY
$\overline{\phi C}$	REW	PAUSE
$\overline{\phi D}$	PLAY	REC・MUT
$\overline{\phi E}$	STOP	REC

If I_1 is "0" when ϕB is "0", it means that the FF key is depressed.

D. Code generator

The data which is fed in from the matrix is converted into the designated pulse code modulation (PCM mode and it then enters the transmission LED driver. The figure below shows the relationship between the key and code.

Mode	D1	D2	D3	D4	D5	D6	Matrix
STOP	0	0	0	0	1	0	$\overline{I_1} \cdot \overline{\phi E}$
PLAY	1	0	0	0	1	0	$\overline{I_1} \cdot \overline{\phi D}$
REC	0	0	1	0	1	0	$\overline{I_2} \cdot \overline{\phi E}$
REW/REV	0	1	0	0	1	0	$\overline{I_1} \cdot \overline{\phi C}$
FF/CUE	1	1	0	0	1	0	$\overline{I_1} \cdot \overline{\phi B}$
REC・PLAY	1	1	1	0	1	0	$\overline{I_2} \cdot \overline{\phi B}$
PAUSE	0	1	1	0	1	0	$\overline{I_2} \cdot \overline{\phi C}$
REC・MUT	1	0	1	0	1	0	$\overline{I_2} \cdot \overline{\phi D}$

2. Receiver

Block diagram

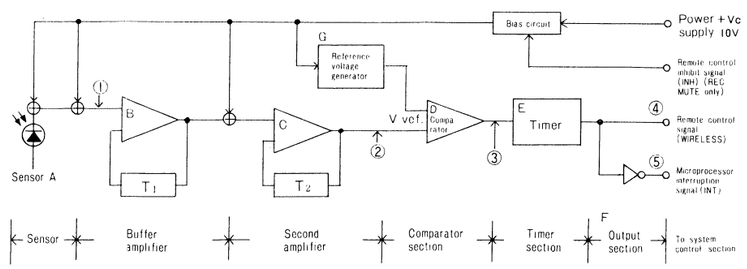


Fig. 20

AD-6700H,C,U,E,K,G

The transmission signal carrier is 40kHz. A single pulse is made of 20 and its width is 500 μsec. Differentiation between bit "0" and "1" is performed by period where 2T = "0" and 4T = "1". To use the FF as an example, the code is 110010 and so:

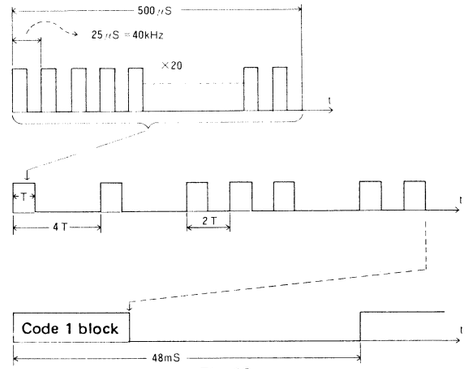


Fig. 19

One block of the transmission signal code is composed of six bits and a block is made up of seven pulses. Here the key has been entered and the pulses are transmitted by a 48 msec period.

E. Clock generator

This generates the reference sync signal (clock) that controls the code generator. The frequency of the signal is 455kHz.

F. Q5 LED driver

This drives the transmission LED.

G. Q6 LED driver

The output from the Q5 emitter is detected by D2 and C3, it is applied to the Q6 base, and the during transmission display and battery display LED is driven.

H. D1

This transmits the infrared light using pulse code modulation by means of the transmission LED.

I. D3

This is the LED for transmission display and battery display.

A. Sensor

The sensor uses a PIN diode and it transmits signals from the transmitter.

B. Buffer amplifier

This amplifier amplifies the signals from the sensor and it is configured as a bypass filter by T1 (time constant feedback circuit).

C. Second amplifier

This amplifies the signals from B to a level at which the comparator D can compare them with the designated Vref voltage (reference voltage). It is configured as a bypass filter by T2.

D. Comparator

This compares the signals from C with the Vref reference voltage, shapes them into ON or OFF signals and feeds out a trigger pulse for the timer start.

E. Timer

The remote control signals use the 40kHz pulse series (20 pulses and their intervals) as signals and so the 20 pulses are masked by the timer.

This makes it possible to set to the microprocessor processing speed when the microprocessor is decoding.

F. Output section

This handles the remote control signals and the reverse outputs, and it feeds out a remote control interruption signal.

G. Reference voltage generator

This generates the reference voltage that determines whether the voltage received has exceeded the Vref reference voltage.

[Waveforms at each section]

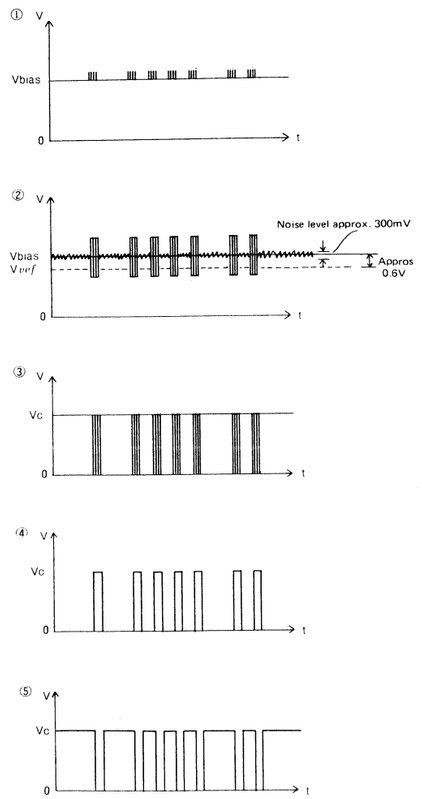
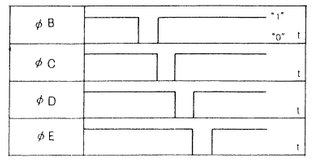


Fig. 21

(Key scan strobe signal)



ssed

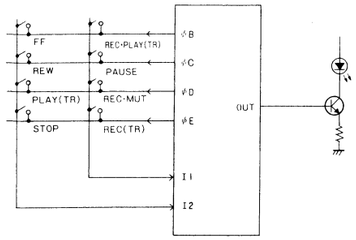


Fig. 18

* **Key matrix figure**

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$\overline{\phi_B}$	FF	REC·PLAY
$\overline{\phi_C}$	REW	PAUSE
$\overline{\phi_D}$	PLAY	REC·MUT
$\overline{\phi_E}$	STOP	REC

If I_1 is "0" when φB is "0", it means that the FF key is depressed.

D. Code generator
The data which is fed in from the matrix is converted into the designated pulse code modulation (PCM mode and it then enters the transmission LED driver. The figure below shows the relationship between the key and code.

Mode	D1	D2	D3	D4	D5	D6	Matrix
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PLAY	1	0	0	0	1	0	$\overline{I_1}\cdot\overline{\phi_D}$
REC	0	0	1	0	1	0	$\overline{I_2}\cdot\overline{\phi_E}$
REW/REV	0	1	0	0	1	0	$\overline{I_1}\cdot\overline{\phi_C}$
FF/CUE	1	1	0	0	1	0	$\overline{I_1}\cdot\overline{\phi_B}$
REC·PLAY	1	1	1	0	1	0	$\overline{I_2}\cdot\overline{\phi_B}$
PAUSE	0	1	1	0	1	0	$\overline{I_2}\cdot\overline{\phi_C}$
REC-MUT	1	0	1	0	1	0	$\overline{I_2}\cdot\overline{\phi_D}$

2. Receiver

Block diagram

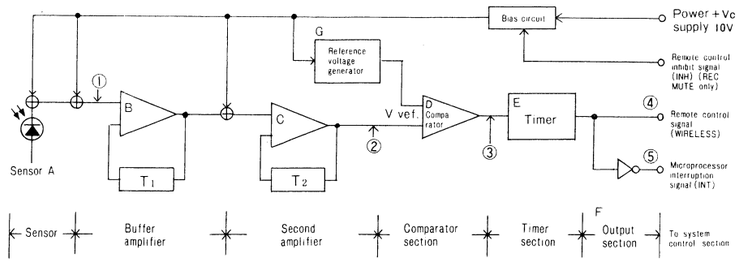
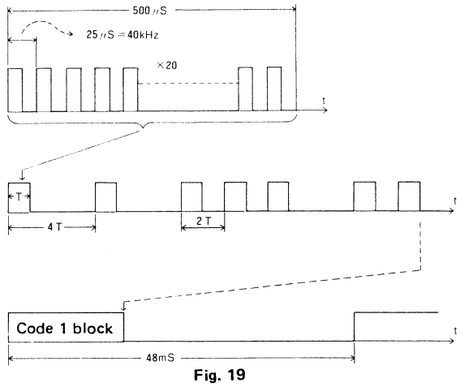


Fig. 20

The transmission signal carrier is 40kHz. A single pulse is made of 20 and its width is 500 μsec. Differentiation between bit "0" and "1" is performed by period where 2T = "0" and 4T = "1". To use the FF as an example, the code is 110010 and so:



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The remote control signals use the 40kHz pulse series (20 pulses and their intervals) as signals and so the 20 pulses are masked by the timer.
This makes it possible to set to the microprocessor processing speed when the microprocessor is decoding.

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This generates the reference voltage that determines whether the voltage received has exceeded the Vref reference voltage.

[Waveforms at each section]

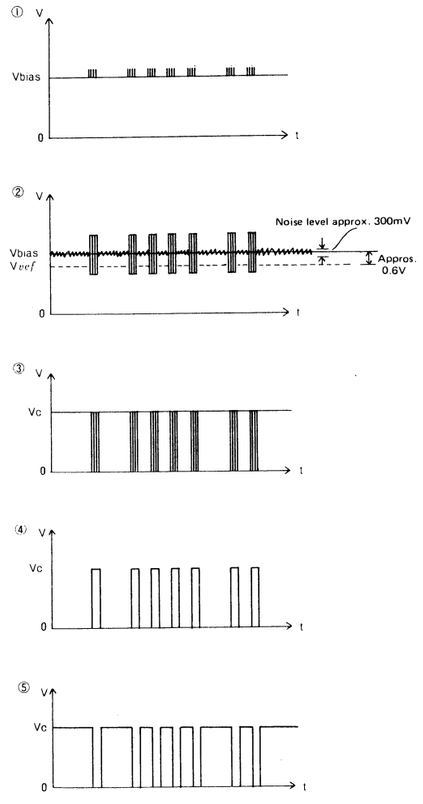
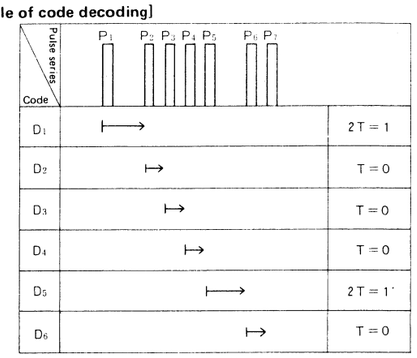


Fig. 21

The comparator output is normally fed out at +Vc but if an input signal with a voltage lower than the reference is supplied, an output such as that in Fig. ③ is fed out only during that interval.
The 40kHz pulses are masked by the timer and so the 20, 40kHz pulses are treated in the same way as for one pulse.
Output ④ is inverted by the Q1 inverter and this becomes the interruption signal of the microprocessor.

[Example of code decoding]



"1000010" indicates "PLAY"

Fig. 22

3. Relationship between wireless remote control and microprocessor

when the timer audio muting timer for the input timing is activated during the 3.6 seconds when the power is switched on in the AD-6700, the wireless interruption signal is not received. It is received at all other times.

* **Wireless decoding**

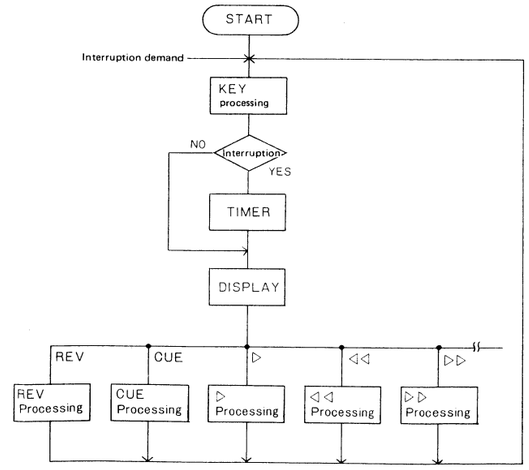
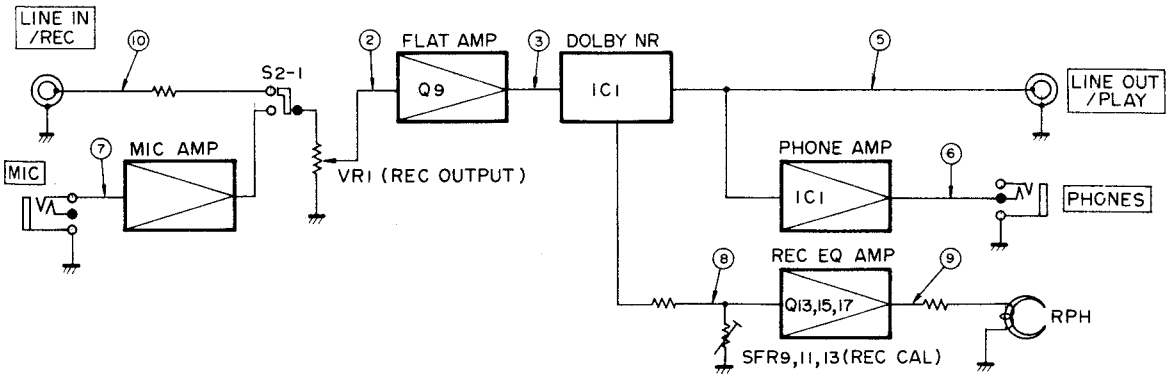
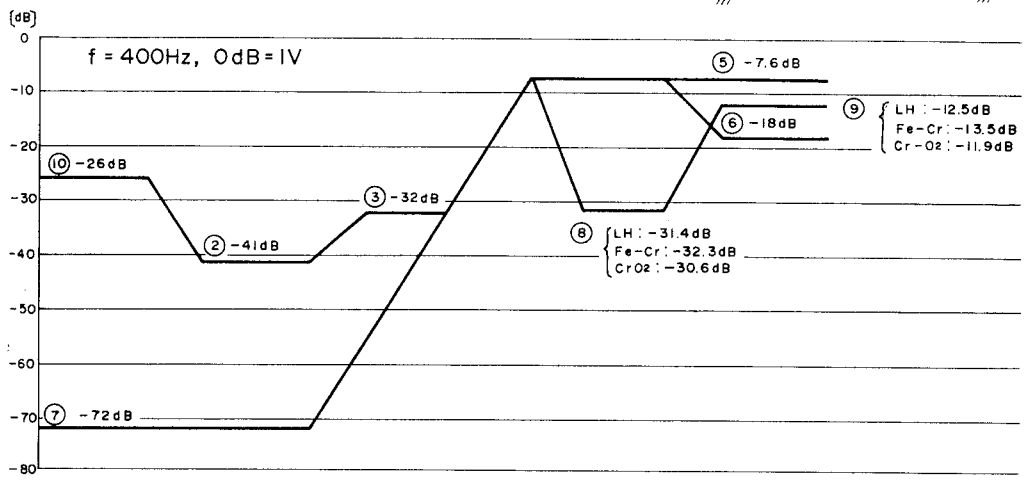


Fig. 23

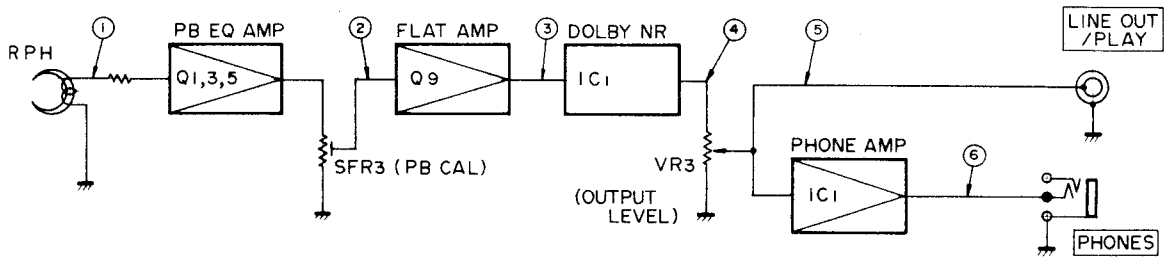
LEVEL DIAGRAM

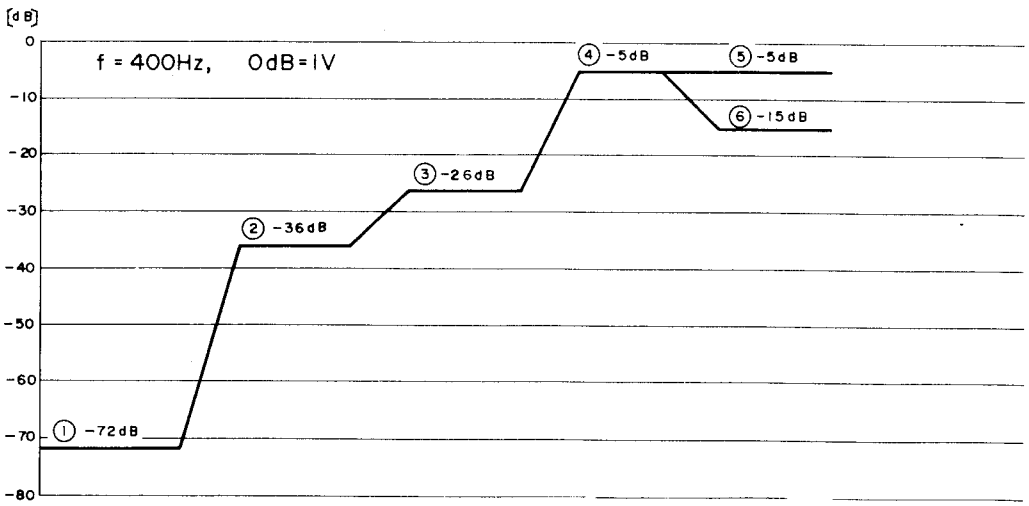
- RECORD





- PLAYBACK





ACCESSORIES/PACKAGE

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1a	82-307-859-01		Printed indiv., Packing (H,E,K,G model only)	*	1
1b	82-307-860-01		Printed indiv., Packing (C model only)	*	1
1c	82-307-854-01		Printed indiv., Packing (U model only)	*	1
2a	82-304-852-01		Cushion L, Printed indiv. (H,C,U,E,K model only)	AD-6900	1
2b	82-304-852-11		Cushion L, Printed indiv. (G model only)	AD-6900	1
3a	82-304-853-01		Cushion R, Printed indiv. (H,C,U,E,K model only)	AD-6900	1
3b	82-304-853-11		Cushion R, Printed indiv. (G model only)	AD-6900	1
4	87-051-135-11		Poly-vinyl sack (for AC power cord)		1
5	87-056-564-01		Curl stopper		2
6	87-056-607-01		Poly-vinyl sack (for case)		1
7	82-307-858-01		Sub cushion, Rear	*	1
8	82-304-080-01		Label, Timer caution	AD-6900	1
9a	82-307-907-01		Instructions booklet (H model only)	*	1
9b	82-307-908-01		Instructions booklet (C model only)	*	1
9c	82-307-906-01		Instructions booklet (U model only)	*	1
9d	82-307-909-01		Instructions booklet (E model only)	*	1
9e	82-307-910-01		Instructions booklet (K model only)	*	1
9f	82-307-911-01		Instructions booklet (G model only)	*	1
10	87-051-175-01		Poly-tube A (for instruction)		1
11	87-051-132-01		Poly-vinyl sack		1
12	87-056-009-41		Distributors list (H,C,E,K,G model only)		1
13	87-056-008-11		Label, AC power cord (K model only)		1
14	87-056-016-01		Tag, Main voltage (K model only)		1
15	87-056-013-01		Guarantee card (C model only)		1
16	87-056-036-01		Guarantee card (U model only)		1
17	87-056-032-01		Guarantee card (G model only)		1
18	87-056-034-01		Service station list (U model only)		1
19	87-056-035-01		Card,Limited warranty (U model only)		1
20	87-051-155-01		Poly-vinyl sack (for guarantee card)		1
21	86-121-100-01		Remote control unit RC-100		1
22a	86-944-619-01		Connection cord, CW-129KS (H,C,U model only)		2
22b	86-925-006-01		Connection cord, CW-115KS (E,K model only)		1
22c	86-944-012-01		Connection cord, CW-129BSK		2
23	87-047-063-01		Battery, SUM-3(AE)		3
24	87-058-023-01		Cord binder		1
25	87-058-024-01		Head cleaning pole ass'y		1
26	87-032-845-01		Siemens plug (H model only)		1

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